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WEST VIRGINIA UNIVERSITY

FIFTY-FOURTH YEAR

CATALOGUE AND ANNOUNCEMENTS

1920 - - - - - - 1921

MORGANTOWN, WEST VIRGINIA
PUBLISHED BY THE UNIVERSITY

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CALENDAR FOR 1921-22

1921

JANUARY

S	M	T	W	T	F	S
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1922

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UNIVERSITY CALENDAR

1921

June 13, Monday.....Commencement

June 13, Monday, 2:00 P. M.....Summer School Begins

August 26, Friday.....Summer School Ends

September 19, Monday.....First Semester Begins

September 19, 20, 21, Monday, Tuesday and Wednesday
Matriculation and Registration of Students

September 22, Thursday.....First Recitations of First Semester

November 23, Wednesday.....Day of Mid-semester Reports

November 24, Thursday, to November 27, Sunday, inclusive
Thanksgiving Recess

November 28, Monday.....Recitations Resume

December 5, Monday
Eleventh Anniversary Meeting of the Phi Beta Kappa Society

December 22, Thursday, to January 2, 1922, Monday, inclusive
Christmas Holiday Recess

1922

January 28, Saturday.....Last Recitations of First Semester

January 28, Saturday, to February 3, Friday, inclusive
Final Examinations of First Semester

February 7, Tuesday.....Second Semester Begins

February 7, 8, Tuesday and Wednesday.....Registration of Students

February 9, Thursday.....First Recitations of Second Semester

April 7, Friday.....Day of Mid-semester Reports

June 2, Friday.....Last Recitations of Second Semester

June 3, Saturday, to June 10, Saturday, inclusive
Final Examinations of Second Semester

June 13, Tuesday.....Commencement

West Virginia University

MORGANTOWN

ESTABLISHED FEBRUARY 7, 1867.

THE STATE BOARD OF CONTROL.

403 CAPITOL STREET

CHARLESTON, WEST VIRGINIA

E. B. STEPHENSON, PRESIDENT----------Charleston, W. Va.
J. WALTER BARNES, TREASURER----------Charleston, W. Va.
JAMES S. LAKIN----------Charleston, W. Va.

The State Board of Control has the direction of the financial and business affairs of the state educational institutions.

THE STATE BOARD OF EDUCATION

STATE CAPITOL BUILDING

CHARLESTON, WEST VIRGINIA

GEORGE M. FORD, STATE SUPERINTENDENT OF SCHOOLS,
PRESIDENT ----------Charleston, W. Va.
GEORGE S. LAIDLEY----------Charleston, W. Va.
EARL W. OGLEBAY----------Wheeling, W. Va.
HOWARD N. GORE----------Clarksburg, W. Va.
FRANK N. SYCAFOOSE----------Webster Springs, W. Va.
L. W. BURNS----------Grafton, W. Va.
W. C. COOK----------Welch, W. Va.

The State Board of Education has charge of all matters of a purely scholastic nature concerning the state educational institutions.

ADMINISTRATIVE OFFICERS.

OF THE UNIVERSITY

FRANK BUTLER TROTTER, A.M., LL.D., PRESIDENT
ROBERT ALLEN ARMSTRONG, A.M., LITT.D., CHAPLAIN
ALFRED JARRETT HARE, A.M., SECRETARY AND REGISTRAR
SUSAN MAXWELL MOORE, A.B., DEAN OF WOMEN
DAVID DALE JOHNSON, A.M., EDITOR OF THE UNIVERSITY BULLETIN
DENNIS MARTIN WILLIS, LL.M., FINANCIAL SECRETARY

OF THE COLLEGES AND SCHOOLS.

The College of Arts and Sciences

JAMES MORTON CALLAHAN, PH.D., DEAN

The College of Engineering

CLEMENT ROSS JONES, M.M.E., DEAN

The Colege of Agriculture

JOHN LEE COULTER, PH.D., DEAN AND DIRECTOR OF THE AGRICULTURAL EXPERIMENT STATION

NAT TERRY FRAME, A.B., DIRECTOR OF AGRICULTURAL EXTENSION

The College of Law

HENRY CRAIG JONES, A.B., LL.B., DEAN[1]

The School of Medicine

JOHN NATHAN SIMPSON, M.D., DEAN

The School of Music

LOUIS BLACK, DIRECTOR

The Summer School

WAITMAN BARBE, LITT.D., DIRECTOR

THE COUNCIL OF ADMINISTRATION.

The President of the University and the Deans of the various colleges.

THE UNIVERSITY FACULTY.

The President, Deans of the various colleges, Professors, Associate Professors and Assistant Professors in all divisions of the University, the Dean of Women, the Commandant of Cadets, the Director of the School of Music and the Librarian of the University.

---

[1] On leave of absence during 1921-2.

STAFF OF INSTRUCTION.

PROFESSORS.

DANIEL BOARDMAN PURINTON, PH.D., LL.D., *President and Professor of Philosophy, Emeritus*

JAMES SCOTT STEWART, M.S., *Professor of Mathematics, Emeritus*

ROBERT WILLIAM DOUTHAT, A.M., PH.D., *Professor of Latin, Emeritus*

WILLIAM PATRICK WILLEY, A.M., *Professor of Equity Jurisprudence, and Commercial Law, Emeritus*

THOMAS CLARK ATKESON, PH.D., *Professor of Animal Husbandry, Emeritus*

ALEXANDER REID WHITEHILL, A.M., PH.D., *Professor of Chemistry*

SAMUEL BOARDMAN BROWN, A.M., *Professor of Geology and Mineralogy*

ROBERT ALLEN ARMSTRONG, A.M., L.H.D., *Professor of English Language and Literature*

BERT HOLMES HITE, M.S., *Professor of Agricultural Chemistry*

ALFRET JARRETT HARE, A.M., *Professor of Latin Language and Literature*

FREDERICK WILSON TRUSCOTT, PH.D., *Professor of Germanic Languages and Literature*

CLEMENT ROSS JONES, M.M.E., *Professor of Power Engineering*

RUSSELL LOVE MORRIS, C.E., *Professor of Railway and Highway Engineering*

JASPER NEWTON DEAHL, PH.D., *Professor of Education*

JAMES MORTON CALLAHAN, PH.D., *Professor of History and Political Science*

JOHN NATHAN SIMPSON, A.B., M.D., *Professor of Physiology*

JOHN HARRINGTON COX, A.M., *Professor of English Philology*

JOHN ARNDT EIESLAND, PH.D., *Professor of Mathematics*

ALBERT MOORE REESE, PH.D., *Professor of Zoology*

OLIVER PERRY CHITWOOD, PH.D., *Professor of History*

JAMES RUSSELL TROTTER, PH.D., LL.B., *Professor of Law*

CHAUNCEY WILLIAM WAGGONER, PH.D., *Professor of Physics*

LOUIS BLACK, *Head of the Department of Vocal Music*

MADISON STATHERS, PH.D., *Professor of Romance Languages*

WAITMAN BARBE, A.M., LITT.D., *Professor of English*

ENOCH HOWARD VICKERS, A.M., *Professor of Economics and Sociology*

CHARLES EDWARD BISHOP, PH.D., *Professor of Greek Language and Literature*

ROLAND PARKER DAVIS, M.C.E., PH.D., *Professor of Structural and Hydraulic Engineering*

AARON ARKIN, PH.D., M.D., *Professor of Pathology and Medical Bacterology*

JOSEPH ELLIS HODGSON, PH.D., *Professor of Mathematics*

HENRY CRAIG JONES, A.B., LL.B., *Professor of Law*

FRIEND EBENEZER CLARK, B.S., PH.D., *Professor of Chemistry*

LEONARD MARION PEAIRS, B.S.AGR., M.S., *Professor of Entomology*

CHARLES BENTON CANNADAY, A.M., *Professor of Latin*

JOHN BEHNY GRUMBEIN, M.M.E., *Professor of Steam and Experimental Engineering*

ALEXANDER HARDIE FORMAN, M.M.E., PH.D., *Professor of Electrical Engineering*

JAMES WIGGINS SIMONTON, A.B., J.D., *Professor of Law*

CHARLES HENRY AMBLER, PH.D., *Professor of History*

CHARLES HERMAN WINKLER, PH.D., *Professor of Agricultural Vocational Education*

ALFRED COPELAND CALLEN, E.M., M.S., *Professor of Mining Engineering*

LESLIE DAVID HAYES, M.E., *Professor of Machine Design and Construction*

LORIMER VICTOR CAVINS, A.M., *Professor of Education*

---

[1] On leave of absence, 1921-22.

HARLAN LESLIE MUMMA, *Captain, United States Army, Professor of Military Science and Tactics and Commandant of Cadets*

NAHUM JAMES GIDDINGS, PH.D., *Professor of Plant Pathology*

THOMAS PORTER HARDMAN, M.A., JUR.DR., *Professor of Law*

WILBUR JONES KAY, A.M., *Professor of Public Speaking*

CHARLES McKEE CANTRALL, A.M., D.D., *Professor of Psychology and Philosophy*

HARLAN HARVEY YORK, PH.D., *Professor of Botany*

ERNEST LEE ANTHONY, M.S., *Professor of Dairy Husbandry*

EDWARD ALEXANDER LIVESAY, M.S. AGR., *Professor of Animal Husbandry*

GEORGE PAUL BOOMSLITER, M.S., *Professor of Mechanics*

JAMES HERBERT GILL, M.E., *Professor of Machine Construction and Superintendent of Shops*

SIMEON SONANT SMITH,[2] *Professor of Rhetoric*

ARLEIGH LEE DARBY, A.M., *Professor of Romance Languages*

DAVID DALE JOHNSON, A.M., *Professor of English*

RACHEL HARTSHORN COLWELL, B.S., A.M., *Professor of Home Economics*

SAMUEL JOHN MORRIS, M.D., *Professor of Anatomy*

LAWRENCE BENJAMIN HILL, A.M., *Professor of Education*

WITHROW MORSE, PH.D., *Professor of Physiology and Physiolological Chemistry*

ROBERT MUNDHENK SALTER, M.S., *Professor of Agronomy*

MARTIN LOXLEY BONAR, M.D., *Professor of Pharmacology*

CARL ALFRED JACOBSON, PH.D., *Professor of Chemistry*

EARL HUDELSON, A.M., *P essor of Education*

JOSEPH HARLEY GOURLEY, M.S., *Professor of Horticulture*

WILLARD WELLLINGTON HODGE, M.A., *Professor of Chemical Engineering*

---

[2] On leave of absence 1920-21.

ASSOCIATE PROFESSORS.

CHARLES AUGUSTUS LUEDER, D.V.M., *Associate Professor of Veterinary Science*

ANDREW JACKSON DADISMAN, M.S., AGR., *Associate Professor of Rural Economics and Farm Management*

EDGAR LEWIS ANDREWS, B.S., AGR., *Associate Professor of Poultry Husbandry*

ARTHUR ADAMS HALL, B.S., M.E., *Associate Professor of Electrical Engineering*

FLOYD EARLE CHIDESTER, PH.D., *Associate Professor of Zoology*

HUBERT HILL, M.S., *Associate Professor of Chemistry*

LEO CARLIN, A.B., LL.B., *Associate Professor of Law*

GORDON ALGER BERGY, PH.C., B.S., *Associate Professor of Pharmacy*

SAMUEL MORRIS, M.S., *Associate Professor of Chemistry*

GIDEON STANHOPE DODDS, PHD., *Associate Professor of Histology and Embryology*

GEORGE RUSSELL BANCROFT, PHD., *Associate Professor of Chemistry*

HARRY EDWARD KNOWLTON, B.S.AGR., *Associate Professor of Horticulture*

HARLEY LUCIUS CRANE, M.S.AGR., *Associate Professor of Horticulture*

EARL CLAUDIUS HAMILTON DAVIES, PH.D., *Associate Professor of Chemistry*

RALPH JOHN GARBER, M.S., *Associate Professor of Agronomy*

CASSIUS HOWARD HOFRICHTER,[1] M.D., *Associate Professor of Pharmacology*

FRED A MOLBY, PH.D., *Associate Professor of Physics*

THOMAS JEFFERSON MURRAY, M.S., *Associate Professor of Bacteriology*

LOUIS AUGUST RUFENER, PH.D., *Associate Professor of Economics*

JACOB EARL THOMAS, M.D., *Associate Professor of Physiology*

JOHN LITTLEFIELD TILTON, PH.D., *Associate Professor of Geology*

EUGENE PEYTON DEATRICK, PH.D., *Associate Professor of Soils*

[1] Resigned February 1, 1921.

ASSISTANT PROFESSORS.

BENJAMIN WALTER KING, A.B., *Assistant Professor of Economics*

GEORGE WALTER GROW, B.S., M.E., *Assistant Professor of Drawing and Machine Design*

CHESTER PENN HIGBY, PH.D., *Assistant Professor of History*

ANTONIO JOSEPH PROVOST, B.S., *Assistant Professor of Romance Languages*

EDWARD SWITZER ALLEN, PH.D., *Assistant Professor of Mathematics*

ROLAND HARRISON PATCH, M.S., *Assistant Professor of Horticulture*

HARRY ORAM HENDERSON, M.S., *Assistant Professor of Dairy Husbandry*

HELMER SWENHOLT, *Captain, Engineers, U. S. A., Assistant Professor of Military Science and Tactics, in charge of the Engineer Unit.*

ROSWELL PAGE BLEDSOE,[2] M.S., *Assistant Professor of Agronomy*

HOWARD BUSHNELL ALLEN, M.S., *Assistant Professor of Agricultural Education*

HARVEY CARSON GRUMBINE, PH.D., *Assistant Professor of English*

ROBERT CLIFTON SPANGLER, A.M., *Assistant Professor of Botany*

ALLEN EDWARD STEARN, PH.,D.,[1] *Assistant Professor of Chemistry*

REBECCA LUELLA POLLOCK, A.M., *Assistant Professor of English*

CLAUDE CARL SPIKER, A.M., *Assistant Professor of Romance Languages*

LILY BELL SEFTON, M.S., *Assistant Professor of Chemistry*

ENOCH FRANKLIN GEORGE, PH.D., *Assistant Professor of Physics*

PERLEY ISAAC REED, PH.D., *Assistant Professor of English*

MARIAN BRECK, M.S., *Assistant Professor of Education and Home Economics*

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[1] Resigned, January 1, 1921.
[2] Resigned, January 15, 1921.

GEORGE EDGAR HARTMAN, A.B., *Assistant Professor of Sociology*

IRVIN HARDY, M.D., *Professor of Surgery*

GEORGE EDWARD OSBORNE, LL.B., *Assistant Professor of Law*

MAURICE TAYLOR VAN HECKE, J.D., *Assistant Professor of Law*

ROSCOE ELMO STEPHENSON,[2] M.S., *Assistant Professor of Agronomy*

GILMER M. BELL, *Captain, U. S. Infantry, Assistant Professor of Military Science and Tactics*

KYLE CHESTER WESTOVER, B.S., *Assistant Professor of Horticulture*

JOHN E WINTER, PH.D., *Assistant Professor of Psychology*

THEODORE EDWARD ODLAND, B.S., AGR., *Assistant Professor of Agronomy*

INSTRUCTORS.

SUSAN MAXWELL MOORE, A.B., *Instructor in Piano*

GRACE MARTIN SNEE, B.M., *Instructor in Piano and Pipe Organ*

RUFUS ASA WEST, *Instructor in Metalworking*

FLORA RAY HAYES, A.B., *Instructor in Theory and History of Music*

RAYMER EGBERT SEAMAN, *Instructor in Woodworking and Foundry Practice*

PAUL CHARLES ROUZER, B.S.AGR., *Instructor in Agricultural Education*

MAX DONNER, *Instructor in Violin*

EDGAR WILLIAMS, A.M., *Instructor in English*

HARRY EDWARD GRAY, *Instructor in Mining (Extension)*

CHARLES CHAPMAN SNOW, A.M., *Instructor in Chemistry*

CLARA LYTLE, A.B.,[1] *Instructor in English*

ELIZABETH DEE FROST, A.M., *Instructor in English*

MARJA BROWN STEADMAN, A.B., *Instructor in Public Speaking*

[1] Absent during second semester, at Columbia University.
[2] Resigned, November 1, 1920.

EVA MYRTLE FLING, A.B., *Instructor in Botany*

CARL HENRY CATHER, B.S., M.E., *Instructor in Drawing and Machine Design*

BENNETT SEXON WHITE, B.S., M.E., *Instructor in Drawing and Machine Design*

HAROLD MALCOLM CATHER, B.S.M.E., *Instructor in Drawing and Machine Design*

CHARLES KEPLER BROWN, *Instructor in Mining (Extension)*

ARTHUR TAYLOR BRAGONIER, B.S.C.E., *Instructor in Surveying*

WILLIAM JOHN CARL, *Instructor in Foundry Practice*

ERNEST ANGELO, B.S.AGR., *Instructor in Horticulture*

CHARLES VINYARD WILSON, B.S.AGR., *Instructor in Animal Husbandry*

JOSEPH LESTER HAYMAN, PHC., B.S., *Instructor in Pharmacy*

CHARLES McCHESNEY BRAY, M.D., *Instructor in Practical Physical Diagnosis*

AGNES CHADBOURNE JOHNSON, A.B., *Instructor in Public School Music*

FRANCES MARGARET YOUNG, B.S., *Instructor in Home Economics*

ESTHER WAGNER STEARN,[4] A.B., *Instructor in Chemistry*

CLAIRE FISHER, A.M., *Instructor in Mathematics*

ALLEN GUY MONTGOMERY, A.B., *Instructor in Mathematics*

HELEN PURINTON PETTIGREW, A.B., *Instructor in English*

GERTRUDE MARTIN, A.B., *Instructor in German*

MARIAN TORREY, A.M., *Instructor in Mathematics*

NELLIE PERRELL AMMONS, A.B., *Instructor in Botany*

MORRIS ABEL RAINES, A.M., *Instructor in Botany*

CLEVELAND SYLVESTER SIMPKINS, A.B., *Instructor in Zoology*

ARTHUR EDWARD OWENS, B.S., *Instructor in Chemistry*

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[4] Resigned, January 1, 1921.

MENDOR THOMAS BRUNETTI, A.M., *Instructor in French*

HARRY EDWARD GRAY,[2] *Instructor in Mining (Extension)*

ADAM CRAWFORD, *Instructor in Mining (Extension)*

WILLIAMS NORRIS, JR., *Instructor in Mining (Extension)*

FRANK C. BROOKS, *Instructor in Drawing and Machine Design*

WILLIAM OLIVER GNAGEY, *Instructor in Machine Shop Practice*

CHESTER GEORGE FUSS, *Instructor in Pharmacy*

HENRY CHRISTIAN VAN DER HEYDE, D.Sc., *Instructor in Physiology and Physiological Chemistry*

ROBERT ETHAN ALLEN,[3] B.S.AGR., *Instructor in Agronomy*

EDITH IRENE HESS, B.S.H.E., *Instructor in Home Economics*

ELEANOR REED MACLAY, B.S.EDUC., *Instructor in Home Economics*

MARY ALICE MILNER, B.S.H.E., *Instructor in Home Economics*

DEWEY GEORGE FISHBECK, B.S.C.E., *Instructor in Mechanics*

ROY EZEKIEL NELSON, *Instructor in Surveying*

ASSISTANTS.

WALTER ALEXANDER MESTREZAT, *Assistant in Music*

HELEN WIESTLING, A.B., *Assistant in Zoology*

ARCHIE FREELAND ARNOLD, *Assistant in Woodworking*

GREEK SAYRE, A.B., *Assistant in History and English*

CHARLES LESTER LAZZELL, A.B., *Assistant in Chemistry*

GEORGE ANDREW FREDERER, A.B., *Assistant in Chemistry*

ELEANOR MONTGOMERY JOHNSON, B.S., *Assistant in Chemistry*

HELEN VIRGINIA BARNES, A.B., *Assistant in Chemistry*

ORFA REX FORD, B.S., *Assistant in Physics*

JULIUS FLOYD MORROW, B.S., *Assistant in Anatomy*

---

[2] Resigned, December 18, 1920.
[3] Resigned, January 8, 1921.

RALEIGH MILLER MOLER, B.S., *Assistant in Pathology and Bacteriology*

CLARENCE LAWRENCE BEERS, PH.C., *Assistant in Pharmacology*

HARDY J. STORY, *Master Sergeant, Engineer, U. S. A., Assistant to Professor of Military Science and Tactics*

EDWARD POWER, *First Sergeant, U. S. Infantry, Assistant to the Professor of Military Science and Tactics*

WINFIELD EBERHART, *First Sergeant U.S. Infantry, Assistant to the Professor of Military Science and Tactics*

STUDENT ASSISTANTS.

CREDE HAYMOND CONLEY, *Student Assistant in Chemistry*

CHARLES THOMPSON NEFF, *Student Assistant in Chemistry*

BENJAMIN PREISER, *Student Assistant in Chemistry*

CHARLES RUSSELL BICKEL, *Student Assistant in Chemistry*

RUFUS GLENN LAZZELLE, *Student Assistant in Physics*

PAUL CECIL BIBBEE, *Student Assistant in Zoology*

ARTHUR THOMAS HOPWOOD, *Student Assistant in Zoology*

RUSSELL SMITH COFFINDAFFER, *Student Assistant in Zoology*

ALMENA JOSEPHINE BUNCE, *Student Assistant in Music*

HOWARD JESS WADSWORTH, *Student Assistant in Philosophy*

THE WEST VIRGINIA AGRICULTURAL EXPERIMENT STATION STAFF.

JOHN LEE COULTER, A.M., PH.D., *Director*

BERT HOLMES HITE, M.S., *Chemist*

NAHUM JAMES GIDDINGS, PH.D., *Plant Pathologist*

WILLIAM EARL RUMSEY, B.S.AGR., *State Entomologist*

HORACE ATWOOD, M.S., AGR., *Poultryman*

LEONARD MARION PEAIRS, B.S.AGR., *Research Entomologist*

CHARLES AUGUSTUS LUEDER, D.V.M., *Veterinarian*

ANDREW JACKSON DADISMAN, M.S., AGR., *Farm Economics*

ERNEST LEE ANTHONY, M.S., *Dairyman*

JOSEPH HARVEY GOURLEY, M.S., *Horticulturist*

ROBERT MUNDHENK SALTER,[2] M.S., *Agronomist*

HARLEY LUCIUS CRANE, B.S.AGR., *Associate Horticulturist*

HARRY EDWARD KNOWLTON, B.S., *Associate Horticulturist*

RALPH JOHN GARBER, B.S., *Associate Agronomist*

EUGENE PEYTON DEATRICK, PH.D., *Associate Soil Technologist*

EDGAR LEWIS ANDREWS, B.S.AGR., *Assistant Poultryman*

LUTHER FRANCIS SUTTON, B.S.AGR., *Assistant Horticulturist and Superintendent of Reymann Memorial Experiment Farm*

ANTHONY BERG, B.S., *Assistant Plant Pathologist*

CHARLES EDWARD WEAKLEY, JR., *Assistant Chemist*

FRANK BATSON KUNST, A.B., *Assistant Chemist*

CHARLES ELLSWORTH STOCKDALE, B.S.AGR., *Agricultural Editor*

ROSS HOMAN TUCKWILLER, B.S.AGR., *Assistant in Animal Husbandry*

THEODORE CLINTON McILVANE, B.S.AGR., *Assistant Agronomist, in Charge of Huntington Sub-Station*

ROWLAND HARRISON PATCH, M.S., *Assistant Horticulturist*

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[2] Resigned, January 15, 1920.

ROSCOE ELMO STEPHENSON,[1] M.S., *Assistant Soil Chemist*

CHARLES VINYARD WILSON, B.S.AGR., *Assistant in Animal Husbandry*

ERNEST ANGELO, B.S., *Assistant Horticulturist*

THOMAS JOSEPH COCHRAN, E. B.S., *Assistant Chemist*

BENJAMIN BERNARD KAPLAN, A.B., *Assistant Chemist*

ROSEWELL PAGE BLEDSOE,[2] M.S., *Assistant Agronomist*

ROBERT ETHAN ALLEN,[2] B.S.AGR., *Assistant Agronomist*

THEODRIC BRYANT LEITH, A. B., *Assisant Chemist*

MONT FRANCIS MORGAN, B.S.AGR., *Assistant Chemist*

EVERETT CHARLES SHERWOOD, M.S., *Assistant Plant Pathologist*

THEODORE EDWARD ODLAND, M.S., *Assistant Agronomist*

JAMES HARVEY SHAFFER B.S.AGR., *Assistant Farm Economist*

AGRICULTURAL EXTENSION STAFF.

NATT TERRY FRAME, A.B., *Director in Charge of Rural Organizations*

WILLIAM HENRY KENDRICK, B.S., *Assistant Director in Charge of Boys' Club Work*

HUGH SWISHER VANDERVORT,[2] B.S., *Assistant Director in Charge of Agronomy, Horticulture and Dairy Extension*

BENTON BONNER EZELL, B.S., *Assistant Director in Charge of Livestock Extension*

CHARLES HENRY HARTLEY,[2] B.S., *Assistant Director in Charge of Extension Schools, Exhibits, Etc.*

MARION HEPWORTH,[1] B.S., *Assistant Director in Charge of Home Economics Extension*

CHARLES ELLSWORTH STOCKDALE, B.S.AGR., *Agricultural Editor*

DAVID ROLLIN DODD, B.S.AGR., *Specialist in Agronomy*

HUGH WILLARD PRETTYMAN, B.S.AGR., *Superintendent of the Packing School*

DEE CRANE, *Extension Specialist in Potatoes*

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[1] Resigned, November 1, 1920.
[2] Resigned, December 18, 1920.

ROSS BRADSHAW JOHNSTON, *Specialist in Agricultural Publicity*

ENOS JOHNSON PERRY,[2] B.S., *Specialist in Dairying*

BENJAMIN FRANKLIN CREECH, B.S.AGR., *Specialist in Beef Cattle and Hogs*

EDWARD LEE SHAW, B.S.AGR., *Specialist in Sheep*

RALPH L. MASON, *Specialist in Poultry*

KATHERINE ALGER,[2] A.B., B.S.AGR., *In Charge of Girls' Work*

HAZEL HORSEFALL, B.S., *Assistant in Club Work*

FRANCES FOLSOM McGUIRE, A.M., *District Home Demonstrator Agent*

MARGARET FORD, B.S.H.E., *In Charge of Farm Women's Clubs*

THOMAS DAVIS GRAY, B.S., *Specialist in Horticulture*

EVERETT CHARLES SHERWOOD, M.S., *Specialist in Plant Pathology*

JEANNETTA WEIL, *Chief Clerk, in Charge of Clerks and Stenographers*

LIBRARY STAFF.

LONNA DENNIS ARNETT, PH.D., *Librarian*

JENNIE DELAWDER BOUGHNER, A.B., *Assistant Librarian*

VIVIAN GORDON REYNOLDS, *Assistant Librarian*

ELIZABETH STEWART HOGE, *Assistant Librarian*

ALLIE PAULINE SHRIVER, *Student Assistant*

FREDERICK HARRY SCHABER, *Student Assistant*

ROBERT SPRIGG BLANDFORD, *Student Assistant*

OTHER OFFICERS.

BERTHA BROWNING PURINTON, A.M., *Assistant to the Dean of Women*

HARRY ADAMS STANSBURY, B.S., *Director of Athletics*

CHANDLER LINN BROOKS, *Superintendent of Buildings and Grounds*

ELIZABETH B. ABBOTT, *Matron to the Women's Hall*

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[1] Resigned, January 1, 1921.
[2] In cooperation with U. S. Department of Agriculture.
[3] Resigned, December 10, 1920.

STANDING COMMITTEES.

ENTRANCE: The deans of the three colleges admitting freshmen.

CLASSIFICATION AND GRADES: Professors HARE, TRUSCOTT, J. R. TROTTER, GRUMBEIN and L. B. HILL.

GRADUATE WORK: Dean CALLAHAN, Professors DEAHL, COX, (Secretary), WAGGONER and DAVIS.

PUBLIC EXERCISES: Professors TRUSCOTT and HAYES, Director BLACK, (Secretary), and Assistant Professor HIGBY

PRIZES: Professor VICKERS, Dean H. C. JONES, and Professors BARBE, HODGSON and CANNADAY.

LIBRARY: Dr. ARNETT, Professors ARMSTRONG, SIMPSON, HAYES, CLARK, BROWN, WINKLER and EIESLAND.

WOMEN STUDENTS: Dean MOORE, Professor COLWELL, Assistant Professor POLLOCK, Mrs. JURINTON and Miss HAYES.

UNIVERSITY PUBLICATIONS: Professors JOHNSON, BARBE, CANNADAY, FORMAN and SIMONTON, and Mr. STOCKDALE.

STUDENT PUBLICATIONS: Professor STATHERS, CHITWOOD, R. L. MORRIS, BISHOP, CAVINS and Assistant Professor REED.

SUMMER SCHOOL: President TROTTER, Dean CALLAHAN, and Professors BARBE, DEAHL and WINKLER.

MILITARY AND GYMNASIUM BOARD: Captain MUMMA, Dean SIMPSON and Professor HARE.

SOCIAL AFFAIRS: Professors DARBY, and KAY, Dean MOORE, Captain MUMMA, Mrs. SNEE and Mrs. PURINTON.

STUDENT AND FRATERNITY STANDING: Professors REESE, HODGSON and J. R. TROTTER.

FRATERNITIES: Professor SMITH (Delta Tau Delta), Professor REESE (Beta Theta Pi), Mr. WILLIS (Phi Sigma Kappa), Professor HARDMAN (Sigma Nu), Dr. ARNETT (Sigma Chi), Professor TRUSCOTT (Phi Kappa Psi), Professor ARMSTRONG (Kappa Alpha), Assistant Professor GROW (Sigma Phi Epsilon), Associate Professor DADISMAN (Kappa Sigma), Mr. GLEN HUNTER (Phi Kappa Sigma) Professor COX (Thea Chi).

SORORITIES: Professor COLWELL (Alpha Xi Delta), Mrs. HITE (Kappa Kappa Gamma), Mrs. BARBE (Chi Omega) and Miss FROST (Pi Beta Phi).

THE ATHLETIC BOARD.

FACULTY MEMBERS: Director STANSBURY (Ex-officio), Professor S. J. MORRIS, and Mr. HARTLEY.

ALUMNI MEMBERS: GILBERT D. MILLER Morgantown, W. Va. (Term expires June 30, 1921). STEPHEN GOODLOE JACKSON, Clarksburg, Va. (Term expires June 30, 1922).

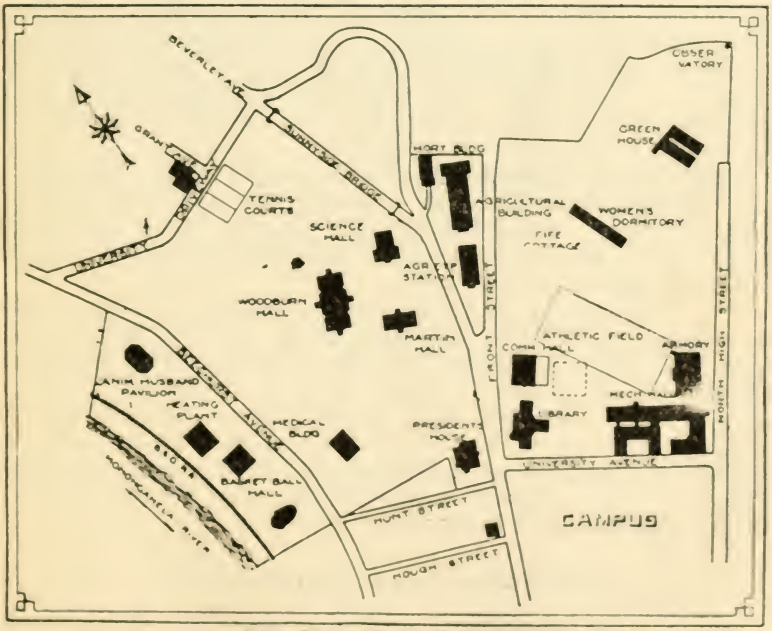
STUDENT MEMBERS: WILLIAM J. SNEDIGER, KARL BYRON KYLE, Jr. (Term expires June 30, 1920).

THE UNIVERSITY

DESCRIPTION OF THE INSTITUTION.

LOCATION.

Morgantown, the seat of the University, is the county seat of Monongalia county. It is a beautiful town of twelve thousand inhabitants, located on the Monongahela river and on the Baltimore and Ohio Railroad, the Morgantown and Kingwood Railroad, and the Monongahela Railway, 103 miles east of Wheeling, and the same distance south of Pittsburg. It has modern conveniences of natural gas, water-works, electric lights, street railways, local and long distance telephones, and is noted for its healthful conditions, physical, social, and moral. There are churches of the following denominations in the town: Presbyterian, Methodist Episcopal, Methodist Protestant, Baptist, Protestant Episcopal, Lutheran, Christian and Roman Catholic.



MAP OF PART OF CAMPUS.

Few institutions of learning have more attractive natural sites. The University grounds border the Monongahela river and afford a

most picturesque outlook. The campus comprises about fifty acres. The University farms, a mile distant from the campus, contain in all almost seven hundred acres.

HISTORY.

West Virginia University originated from the national land grant act of June 2, 1862, and from the subsequent action of the state legislature in accepting and carrying out the provisions of the act. On January 9, 1866, the board of trustees of the Monongalia Academy at Morgantown tendered to the legislature for the use of the contemplated state or land grant college, all its property, including Woodburn Female Seminary, estimated at $51,000, on condition that the college should be located at Morgantown. On January 30, 1867, the legislature accepted the property and on February 7 passed an act permanently establishing "The Agricultural College of West Virginia" and authorizing the governor to appoint eleven suitable persons as a board of visitors.

The eleven visitors held the first meeting on April 3, 1867, at which time they appointed Alexander Martin president and established collegiate, scientific and agricultural departments of instruction.

By an act of December 4, 1868, the name of the college was changed to "West Virginia University" and the "board of visitors" to the "board of regents." July 1, 1919, the "board of regents" was merged in "the state board of education."

The dates of the establishment of the special colleges and schools now comprised in the University are as follows: The College of Law, 1878; the College of Engineering, 1887; the Agricultural Experiment Station, 1888; the College of Agriculture, 1897; the School of Music, 1897; the School of Medicine, 1902.

The University has had nine regular presidents. Alexander Martin resigned in 1875. He was succeeded by John W. Scott (acting president), 1875-7; John Rhey Thompson, 1877-81; Daniel Boardman Purinton (acting president), 1881-82; William L. Wilson, 1882-3; Robert C. Berkeley (chairman of the faculty), 1883-5; Eli Marsh Turner, 1885-93; Powell Benton Reynolds (acting president), 1893-5; James L. Goodnight, 1895-7; Jerome Hall Raymond, 1897-01; Daniel Boardman Purinton, 1901-11; Thomas Edward Hodges, 1911-14; Frank Butler Trotter (acting president, 1914-1916), 1916.

GOVERNMENT AND ORGANIZATION.

The financial and business affairs of the University and of all the other state educational institutions are directed by a State Board of Control consisting of three members appointed by the governor. This board also exercises a general control over the various public insti-

tutions of the state. The academic control of the University and also of the other educational institutions of the state, with the exception of the School for the Deaf, Dumb and Blind, The Boys' Reform School, and The Girls' Industrial School, is vested in The State Board of Education. The board is bi-partisan and consists of the state superintendent of free schools (ex officio), who is elected by the people, and of six other members who are appointed by the governor.

The internal administration of the University is vested in the President, The Council of Administration, and the University Faculty. All matters of a purely administrative or executive nature are in the hands of the President alone or of the President and Council. The Faculty is the general legislative body; it fixes the requirements for entrance and graduation and has immediate direction of the general educational policy of the institution. Any proposal to change this policy in any respect must be made in writing at a meeting of the Faculty.

Subordinate to the Faculty are a number of standing committees, appointed by the President. See page 18.

The University organization embraces:

The College of Arts and Sciences.
The College of Engineering and Mechanic Arts.
The College of Agriculture.
The College of Law.

The following schools and divisions are connected with the University in their management and work, but do not confer degrees:

The School of Medicine.
The School of Music.
The Summer School.
The Division of Military Science and Tactics.
The West Virginia Agricultural Experiment Station.
The Division of Agricultural Extension.

FUNDS.

The funds for maintaining the University are derived from the following sources: (1) Interest on the land grant endowment of $115,750; (2) the Morrill fund; (3) the Hatch fund; (4) the Adams fund; (5) the Smith-Hughes and the Smith-Lever funds; (6) biennial appropriations by the state legislature; (7) fees and tuition. The annual income of the University and Experiment Station from all sources is now approximately $1,000,000.

BUILDINGS.

The buildings are as follows:

1. Woodburn Hall, a three-story building, containing the administrative offices, lecture rooms, the law library and various laboratories.

2. Science Hall, a three-story building, containing lecture rooms and laboratories for the department of chemistry.

3. Martin Hall, a three-story building, containing the recitation rooms and laboratories of the department of physics and the halls of the Columbian and Parthenon literary societies.

4. Commencement Hall, a large two-story building, containing a commodious chapel, with 1,500 seats, and a gymnasium.

5. Oglebay Hall, a four-story building, containing the laboratories and offices of the College of Agriculture.

6. The Experiment Station Building, containing the chemistry laboratories and soils laboratories of the Agricultural Experiment Station.

7. The Armory and Drill Hall, for the Division of Military Science.

8. Mechanical Hall, occupied by the College of Engineering and Mechanical Arts, the department of geology, and the State Road Commission.

9. The Medical Building, a three-story brick building containing the offices, lecture rooms and laboratories of the School of Medicine.

10. The Library, containing the general library and reading and seminary rooms.

11. The Women's Hall, a three-story brick building, containing a dining hall and dormitory for women students.

12. The Women's Hall Annex, a rented building on Willey street, containing additional dormitory facilities for women students.

13. The President's House.

14. The Central Heating Plant.

15. A frame building near Oglebay Hall containing rooms for the use of vocational students and certain laboratories of the College of Agriculture.

16. The University Greenhouse.

17. The Basket-Ball Building.

18. The Livestock Pavilion.

Besides these there are the various buildings on the University Farm.

THE UNIVERSITY LIBRARY.

The Library Building is a three-story stone structure, 135 feet long by 50 feet wide, with book room annex in the rear. The basement of the building is used for storage. On the first, or main floor, are the reading and reference rooms, rooms for the books on education and medicine, and the cataloguing rooms and the office of the librarian. On the upper floors are the librarian's office and rooms for government documents, for books on agriculture, and for class work.

The reading and reference rooms are equipped with modern library appliances and are convenient to the book room in the rear.

The University Library consists of the General and Law Libraries. The General Library is located in the Library Building and numbers about 57,000 volumes. The Law Library, located in Woodburn Hall, numbers about 15,000 volumes. The library of the Agricultural Experiment Station is now shelved with and is a part of the General Library. Two hundred and seventy-five periodicals, including publications of societies, are received. Most of the county papers of the state are on file in the reading room.

All officers and students, and, under special restrictions, persons not connected with University, have the privilege of drawing books from the library for home use, two volumes being allowed at one time. The corps of instruction have direct access to the shelves and students may have this privilege for special investigation upon recommendation of their instructors. The most important reference books, and books used in connection with the courses of instruction, numbering between 4,000 and 5,000, are kept on open shelves in the reference room. A card catalogue, shelf list and other bibliographic aids are provided and the members of the library staff are ready at all times to give assistance in research and investigation.

The Library is open from 7:45 a. m. to 10 p. m. every week day during the semester except Friday, when it closed at 8 p. m. It is closed on Thanksgiving day, Christmas day, New Year's day and the Fourth of July. On Sundays the Library is open for readers from 2 to 5 p. m. No books may be borrowed on Sunday. During the Christmas and summer vacations it is open on week days from 8 to 12 a. m.

PHYSICAL LABORATORIES.

The department of physics occupies Martin Hall. The general lecture room is provided with water, gas, compressed air, electrical power, a special device for rapidly darkening the room, and a solid masonry pier for galvanometers, etc., requiring a non-vibratory support. The two general laboratories are large enough to accommodate forty students working at one time and are equipped with the view of accomplishing the maximum amount of laboratory work in the

minimum time. The photometer room is equipped with a Reichanstalt-Summer-Brodhun photometer and a Hilger Constant Deviation Spectrophotometer. The electrical standardizing laboratory is equipped with three individual switchboards connecting with the main power board, a full line of D. C. and A. C. measuring instruments, six mounted galvanometers, a Leeds and Northrup Potentiometer with standard cells and resistances for D. C. calibration, a Siemens Dynamometer for A. C. calibration, Thompson, Koepsel, Ring and Epstein sets for iron testing, standard capacities and Wheatstone, Kelvin, and Cary-Foster Bridges for resistance measurements. The shop is supplied with a full line of bench tools for the manufacture and repair of apparatus, and has in addition a 9-in. lathe, a 9-in. drill press, a circular saw and emery wheels—all motor-driven.

Electrical power is supplied from a motor-generator set, the D. C. voltage being controlled by a Tirrill Regulator insuring steady voltage for laboratory work. The laboratory has in addition a 220-volt A. C. supply, and 50 volts from a storage battery. The distributing board is equipped with auto-transformers and special rheostats making it possible to distribute various kinds of power to each laboratory in the department. The department is also equipped with apparatus for advanced work in light, heat, and electrical oscillations.

Under Chapter 16, Acts of West Virginia, 1915, the director of the physical laboratory of the West Virginia University is Assistant Commissioner of Weights and Measures in the State of West Virginia. The physical laboratory is therefore the State Standardizing Laboratory for Weights and Measures and is provided with all the necessary standard weights, measures, balances and apparatus for carrying on this work.

The University Library has on file the current numbers of most of the standard journals of physics.

CHEMICAL LABORATORIES.

The rooms assigned to the department of chemistry consist of four lecture and recitation rooms and eight laboratories. Connected with these are two weighing rooms and two preparation rooms. The laboratories afford working space for two hundred and fifty students at a time and are supplied with water, compressed air, gas, chemicals and apparatus necessary for practical work. This apparatus includes a large number of pieces used in illustrating the elementary principles of the science, as well as the more expensive instruments used in analytical work. A collection of the latest reference and text books is kept within easy reach of the students.

In addition to the ordinary apparatus, combustion furnaces, gas and electric tube furnaces, a colorimeter, specific gravity apparatus, a

Berthelot bomb calorimeter, a spectroscope, refractometer, etc., can be issued to the students from the stock room when their work demands them.

MUSEUM OF GEOLOGY AND PALEONTOLOGY.

The equipment for the purpose of illustrative teaching in geology, paleontology and mineralogy consist of many thousands of fossils, casts and models, a good collection of minerals, specimens of all the important building stones, and Ward's College Collection in Paleontology, showing the advancement from the early forms of life to those of the present time. Collections of rocks and fossils illustrating the geology of the state are being constantly gathered by the West Virginia Geological Survey and are placed in the keeping of the University, where they are available for study. The University is situated in the midst of a great coal mining region, within five miles of the westernmost fold of the Appalachian mountains, and oil and gas wells are but a short distance away. The natural facilities for the study of geology are unsurpassed.

THE ZOOLOGICAL LABORATORIES.

The laboratories devoted to the work of zoology and embryology occupy a part of the third floor of Woodburn Hall. The plumbing, lighting, etc., of these rooms are arranged for the special purpose for which the rooms are used. The lecture rooms are supplied with projection lanterns, wall charts, etc. The laboratories are equipped with high grade microscopes, microtomes, paraffine baths, incubator, and all the other necessary apparatus for general class work. One room is fitted up as a shop and general preparation room. A part of this room has been partitioned off to form a dark-room. A large reducing and enlarging camera and a Bausch and Lomb micro-projection and photographic apparatus make all kinds of photographic work possible. A type collection of animals is gradually being increased. For the work in embryology various series of Ziegler's wax models, embryos, whole and sectioned, dissections, charts, etc., are provided.

THE BOTANICAL LABORATORIES.

The botanical laboratories are in Oglebay Hall. They are equipped with microscopes, oil-immersion objectives, dissecting lenses, camera lucidas, microtomes, water baths, paraffine ovens, incubators, sterilizers, autoclave, and some apparatus for plant physiology, besides the usual reagents and glassware.

EDUCATIONAL AND PSYCHOLOGICAL LABORATORY

The equipment for use in the laboratory work in connection with courses in education and educational psychology is found in rooms 15, 16, and 17, Woodburn Hall. This equipment includes sufficient apparatus for conducting classes in experimental education and in mental tests and measurements. In addition to the complete set of apparatus that accompanies Whipple's "Manual of Mental and Physical Tests," there has been added recently several hundred dollars' worth of apparatus such as mirror-drawing and tracing devices, individual tachistoscopes, mirrors for observing eye-movements, perception cards, puzzles, etc. The laboratory is provided also with a very complete list of samples of 50 or more of the most desirable educational tests and scales, and with practically all of the intelligence tests that have been published. The department is gradually accumulating a number of charts, tables, and graphs of local conditions helpful in studying the educational problems of the state.

OTHER LABORATORIES.

A more detailed description of the various engineering and agricultural laboratories as well as the laboratories of the School of Medicine will be found in connection with the announcements of these departments on later pages of this catalogue.

MILITARY TRAINING.

Military training is prescribed for all regular male students in the University below the rank of junior unless such students are more than twenty-three years of age upon their entrance to the University. Certain exceptions to this requirement are stated in full in the detailed announcements of the Division of Military Science.

Enrollment in the Division of Military Science or appointment as a state cadet does not render the student liable for military service either to the State or to the United States government.

A unit of the Reserve Officers' Training Corps was established at the University in 1916. An Engineer Unit, Senior Division of the Reserve Officers' Training Corps was established in 1919 and is now in operation.

ATHLETICS.

The department of athletics, as now organized, is under the supervision of a director. Football, baseball, basketball, wrestling, track and tennis teams are organized and trained each season. All University athletics are under the control of the athletic board. This board is composed of the director of athletics, two other members of the University faculty, two alumni of the University, and two students.

The faculty members of the board are appointed by the President of the University and serve during his pleasure. One faculty member is designated as chairman of the board. He is the executive officer of the board and has no vote except in case of a tie.

The alumni members are elected by the Alumni Association at their annual meeting at commencement for a term not exceeding two years. Not more than one alumni member shall be a resident of Monongalia County.

The student members of the board are elected by the student body by ballot. One member in full standing in the junior class, a candidate for a degree, is elected to serve two years at a poll held not later than June 1 of each year. All details of these elections are in the hands of the Inter-Class Council in consultation with the President of the University.

MEDICAL SERVICE.

All students in the University pay a medical fee of $2.50 each per semester, in return for which they receive free drug service from the department of pharmacy of the University, and free medical attention, including minor surgery (specialties excepted) from the faculty of the School of Medicine.

Students wishing to avail themselves of the dispensary will report at the dean's office in the Medical Building where a physician will be on duty from 10 to 12 a. m. and from 2 to 5 p. m. daily, and Saturday morning from 10 to 12. It is expected that students shall obtain these services at the dispensary, unless they are unable to leave their rooms, when a physician will attend them at their residences. Students unable to leave their rooms can obtain such services by telephoning to the Medical Building (No. 444) during office hours, or to the dean at his home (No. 244-J).

Summer School students and those coming in for only one class, or some special class, are exempted from the payment of the medical fee if they so desire.

UNIVERSITY FEES AND EXPENSES.

GENERAL FEES.

In the College of Arts and Sciences, the College of Engineering and in the College of Agriculture tuition is free to West Virginia students. For students not residents* of West Virginia the tuition fee is $50.00 for the semester.

In the College of Law and the School of Medicine the tuition fee for resident students is $25.00 a semester. For non-resident students in the College of Law the tuition fee is $50.00 a semester and in the School of Medicine $100.00 a semester.

In the Summer School the tuition fee is $10.00 for resident students and $15.00 for non-resident students.

The contingent fee is $12.50 a semester.

The student activity fee is $5.00 a semester.

The medical fee is $2.50 a semester.

A fee of $2.00 each semester is charged for registration and the issuance of class cards. As a reward for prompt registration this fee is remitted to all students who procure class cards during the first three days of the first semester, and the first two days of the second semester. Students whose work is exclusively in music are excused from payment of the $2.00 registration fee.

Class officers will issue class cards only on presentation of the receipt for the above fees, signed by the registrar and the financial secretary.

SPECIAL FEES.

The diploma fee is $10.00 payable by all students at the beginning of the semester in which they expect to receive their degree or diploma.

A fee of $1.00 is charged for furnishing a copy of a student's record in the registrar's office after the regular semester reports have been issued.

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*Students are considered to be resident students if at the time of their registration their parents or guardians have been residents and citizens of the State for at least one year. No non-resident student shall gain residence entitling him to reduction or exemption from tution merely by his attendance at the University.—Order of the Board of Education.

REFUNDING OF TUITION AND FEES.

Students who withdraw from the University for good and sufficient reasons during the first two weeks of the semester, will have their fees refunded upon making application to the President.

COST OF A YEAR'S WORK.

Board and lodging may be obtained in Morgantown for from $6.00 to $10.00 a week. Furnished rooms may be obtained at from $1.50 to $3.00 a week with two in a room. Board in private families or in students' boarding clubs costs from $5.00 to $7.00 a week. A student's washing will cost usually from $10.00 to $18.00 a year, his textbooks from $8.00 to $30.00 a year, and his college fees $40.00 a year. Traveling expenses, clothing, and miscellaneous expenses will depend largely upon the tastes and habits of the individual. In general it may be said that the legitimate cost of a nine months' term of residence at the University ranges from $300.00 to $500.00, exclusive of traveling expenses.

ADMISSION TO THE UNIVERSITY.

METHODS OF ADMISSION.

Students are admitted to the University either by examination or on certificate from an accredited preparatory school. In the latter case the certificate must set forth the work of the student in detail. Diplomas or certificates of a general nature will not be accepted.

Candidates for admission to the University must be at least sixteen years of age. They must present certificates of good moral character and, if from other colleges or universities, must present letters of honorable dismissal.

Candidates for admission who do not present entrance certificates, or who come from other institutions of learning without letters of honorable dismissal, may, at the discretion of the registrar, be allowed to register provisionally. In every such case the registrar will make immediate inquiry of the institution from which the applicant comes and if satisfactory certificates of credits and good standing can not be obtained the registration will be cancelled and the fees paid by the applicant will be returned. A provisional registration will not ordinarily be continued for a longer period than one month.

NOTE:—A list of classified high schools in West Virginia may be found on page 60 of this bulletin.

ENTRANCE CREDITS.

In accrediting West Virginia high schools the University follows the classification made by the state supervisor of high schools. High schools of the first class are supposed to offer sufficient work to enable their graduates to enter any college of the University. Graduates of schools of the second and third classes receive credit for the work certified, with the understanding, however, that no student may enter any college of the University with fewer than thirteen units credit.

Graduates of the state normal schools and of all other schools in good standing will receive credit for work properly certified.

The requirements for admission to the various colleges of the University are stated in terms of units.

A unit in any subject represents the amount of work that may be done in a standard high school in a year of thirty-six weeks, with five recitation periods of not less than forty minutes each, per week. In courses where laboratory work is required, from two to three hours of laboratory work is considered the equivalent of one hour of recitation, according to the amount of outside preparation required in connection with such work.

Certificates of entrance credits must be on the blank form prescribed by the Committee on Classification and Grades or on a similar form, so that credit values, in units, may be readily computed. These certificates should be sent in to the registrar at least two weeks before the applicant presents himself for matriculation. Failure to do this may result in vexatious delay in registration and may render the student liable to the payment of the $2.00 registration fee. After the certificate has been considered by the Committee on Entrance and the credits recorded, it is permanently filed in the registrar's office and becomes the property of the University.

For admission to the University the student must have credit for fifteen units of secondary school work, i. e., the work of a standard four-year high school.[1]

A. The following groups are required:
   (1) Four units of English.
   (2) Three units in one other subject.
   (3) Two units in a third subject.
   (4) Two units in a fourth subject.
   (5) Four units elective.

B. The work indicated in A must include: For admission to the College of Law: 2 units of Latin. For admission to the College of Engineering: 1½ units of algebra, 1 unit of plane geometry, and ½ unit of solid geometry. For admission to the School of Medicine: two units of Latin, one unit of history, one unit of algebra, and one unit of plane geometry.

C. Work in the following subjects not to exceed the number of units placed after each subject will be accepted:

English	4 units	Science[3]	
		Physics	1 unit
Foreign Languages[2]		Chemistry	1 unit
Latin	4 units	Biology	1 unit
Greek	3 units	Botany	1 unit
French	3 units	Geology	1 unit
German	3 units	Zoology	1 unit
Spanish	2 units	General science	1 unit
Italian	2 units	Physical geography	½ unit
		Physiology	½ unit
		Hygiene and sanitation	½ unit

[1] These admission requirements are effective from May 1, 1919, but graduates from high schools in 1919, 1920, or 1921 may, if they prefer, enter under requirements as stated in the University catalogue for 1918-19.

[2] Not less than two units of one foreign language will be accepted for entrance.

[3] A group of two units in science may be made by combining one unit each of physics and chemistry or one unit of any two of the following: biology, botany, zoology, geology. A group of three units in science may be made by combining one unit each of any three of the following: physics, chemistry, biology, botany, zoology, geology.

Mathematics		Vocational subjects (not to exceed four units in all.)	
Algebra	1½ units	Agriculture	3 units
Plane geometry	1 unit	Household arts	3 units
Solid geometry	½ unit	Manual training	3 units
Trigonometry	½ unit	Bookkeeping or bookkeeping and commercial arithmetic	2 units
History and Economics		Shorthand and typewriting	2 units
History	3 units	Commercial geography	½ unit
Civics and American history	1 unit	Commercial law	½ unit
Elementary economics and sociology	1 unit		
Education	2 units		
Drawing		Music[1]	2 units
Free-hand drawing	1 unit		
Mechanical drawing	1 unit		

[1] Credit for work in music is given only under the conditions stated on page 59.

SPECIAL STUDENTS.

Persons who do not desire to become candidates for a degree, may, by permission of the Committee on Entrance and of the faculty or dean of the college which they wish to enter, be admitted as special students, subject to the following provisions:

1. Special students must as a rule be twenty-one years of age or over (twenty-two in the College of Law).
2. Special students must satisfy at least nine units of the requirements for admission, including two units of English. (For academic requirements for admission as special students in the College of Law see the announcements of that college.)
3. Every application for admission as a special student must be in writing, and must set forth fully the applicant's reason, together with a detailed statement of the studies he desires to pursue.
4. Special students are subjected in all respects to the usual rules relating to registration and scholarship. They may be assigned to classes for which they apply, it being understood, however, that admission to any class rests entirely with the instructor in charge and further, that admission to any class when so granted does not necessarily imply credit for prerequisites.

CONDITIONAL ADMISSION.

Persons who lack not more than two units of the regular entrance requirements of any college in the University may register as conditioned freshmen in that college.

ADVANCED STANDING.

Applications for advanced standing on account of work of college grade done before entrance to the University should be made to the Committee on Entrance not later than two weeks after the applicant's

matriculation. Certificates of college credits must be presented on a separate form from the entrance credits.

If no certificates are offered or if those offered are considered by the Committee on Entrance to be irregular or insufficient, the committee will arrange for an examination of the applicant. In this case the dean of the proper college will issue examination cards on which after examination the head of each department will report to the Committee on Entrance the numbers, names, and credit values of the courses, if any, for which the applicant is entitled to credit.

REGISTRATION.

Every student who registers at West Virginia University must fill out a student's registration blank at the office of the registrar in Woodburn Hall or at the office of the dean of the college he desires to enter. Cadets should present themselves to the commandant in the Armory before coming to the registrar's office. The blanks of women students must be filled out in the Women's Parlor and approved by the dean of women.

This registration blank is then presented to the registrar, who will issue in return a card stating the amount of fees to be paid, the college which the student is to enter, and the name of the class officer or adviser.

The fees as indicated on this card must then be paid to the financial secretary at his office in Science Hall. His receipt is stamped on the card.

The receipted card is then presented to the class officer designated, who will take it up, assign the student to his proper classes, prepare a study list and issue class cards admitting to these classes.

These class cards are then taken to the proper instructors, who will take them up, sign the study list, and enroll the student in their classes. Cadets should obtain from the commandant in the Armory a blank requisition for text books, which blank is to be filled out by the various instructors and then presented at the bookstore in Martin Hall.

Finally the study list, properly signed by all instructors, must be returned to the class officer. Registration is not completed until this card has been returned.

All students are required to register at the beginning of each semester.

CLASSIFICATION AND SCHOLARSHIP.

THE CLASS OFFICER.

The duties of the class officer are as follows:

1. To assign the student to proper courses, and see that prescribed work is taken in order.

2. To supervise the selection of elective courses by the student and to assist the student in planning his entire course, including both required and elective subjects, so as to avoid conflicts.

3. To keep a record of the work of the student and to report his registration and standing to the registrar as required.

4. To recommend the student to the dean of his college for his degree or diploma upon the completion of the work required for it.

5. Not later than October 15 in each year each Class Officer must submit to his dean a provisional recommendation for graduation for each student under his care who expects to complete undergraduate work by the following commencement day. Not later than February 20 the Class Officer must make to the dean a final recommendation for graduation for each candidate. Both the provisional and final recommendation must be made on forms furnished by the dean and must include a statement of the work already completed by the candidate and a schedule of his work for the remainder of the year.

6. To have general oversight of the student's college life. The student will look to his Class Officer for advice and guidance in all matters pertaining to his work. Withdrawal from classes, changing from one class to another, etc., will always require the Class Officer's consent.

CREDITS.

A credit or semester-hour represents the amount of work done in one semester (eighteen weeks), in one recitation hour with two preparation hours a week. From two to three hours of laboratory work is considered equivalent to an hour of recitation, according to the amount of outside work assigned in connection with the laboratory hours.

Fewer than ten hours in an ancient or modern language will not be counted toward any University degree, diploma or certificate.

CLASSIFICATION.

No student shall be classified as a freshman or first year student who is conditioned in more than two units of entrance requirements.

The number of courses required for classification as a sophomore or second year, junior or third year, and senior or fourth year student varies in the different colleges.

First-year students in the School of Medicine, who have completed two years of academic work, have the rank of juniors.

First-year students in the College of Law, who have completed one year of academic work, have the rank of sophomores.

Classification of students for publication in the catalogue will be made on the basis of the work to their credit on November 1, of each year, except in the case of students entering later in the year.

MAXIMUM AND MINIMUM WORK.

A maximum and minimum number of hours for which a student may register in any one semester is established for each college. A student desiring to do irregular work, more or less than the prescribed number of hours in any college, must obtain permission from the committee on students' courses and hours in that college.

Registration for more than the specified maximum work shall be permitted only for the removal of conditions or better adjustment of schedules and not in any case for the purpose of shortening the time regularly required for the work of the degree sought by the student.

SUBSTITUTION FOR REQUIRED COURSES.

A student who desires to substitute another course in place of any course prescribed in his curriculum or required for the degree toward which he is working, must obtain permission for such substitution from the committee on students' courses and hours in his college, but there can be no substitution from group to group. For list of groups see announcements of various colleges.

CHANGES IN REGISTRATION.

The permission of both class officer and instructor shall in all cases be necessary for the withdrawal of a student from any course or for his transfer from one course to another. After the first six weeks of the semester have elapsed the permission of the committee on students' courses and hours in the college concerned must also be obtained. If a student discontinues a course without permission his standing in that course is reported to the registrar as zero.

A change from one major subject to another in the same college will require the consent of the committee on students' courses and hours in that college. A change of major will not be permitted after the completion of the junior year.

Students may be transferred from one college to another with the approval of the deans of the respective colleges, but in all cases such students must meet the requirements of the curriculum of the college entered.

No permission to do irregular work more or less than the pre-

scribed number of hours, to make substitutions for required work, or to make any change of registration as above stated is valid until such permit has been reported to the Committee on Classification and Grades for approval and record or until notice of the action taken has been given to the student either by his class officer or by the secretary of the committee.

WITHDRAWAL FROM THE UNIVERSITY.

A student desiring to withdraw from the University must apply to the President, or, in his absence, to the registrar, for permission. When the withdrawal permit has been secured it must be presented by the student to his class officer, who will approve it and forward it to the registrar. Students who withdraw from the University without permission will have their grades reported as zero at the end of semester and then be liable to indefinite suspension.

ABSENCES.

Students are required to be present at every recitation and examination of the courses for which they are registered. Punctuality, regular attendance, and attention to the work of the class room will be largely considered in determining the class grade of the student.

Students who find it necessary to be absent from Morgantown while the University is in session must secure permission, in advance from the President, or, in his absence, from the registrar.

Cadets who wish a leave of absence from duty or who desire to withdraw from the University temporarily during their term of enlistment must apply to the commandant for a furlough.

Any student who has seven unexcused absences is debarred from attendance at all classes until he has been restored to good standing by the President.

At the close of each day all absences are reported by the instructors to the registrar. Special absence report cards are used for this purpose. All excuses for absence should be made to the registrar within five days after the absence occurs. Women students, before going to the registrar, should first present their excuses to the dean of women. In cases of illness a certificate from the University Dispensary physician or other practicing physician of the city is required. Every unexcused absence effects a reduction of one per cent. in the student's final grade for the course.

In case of absences at the beginning of either semester a deduction of two per cent. from the final grade in every subject is made for each exercise missed, for all absences not more than seven in number, unless such absences are excused by the Committee on Classification and Grades. If the absences are more than seven in number full credit for the course is not given, unless such absences are excused by the committee and the work missed made up to the satisfaction of the instructor. Excuses for such absences must be presented to the committee on special blanks furnished for that purpose.

EXAMINATIONS AND GRADES.

Method of Grading. In practically al the courses offered in the University the student receives both a preliminary or mid-semester grade and a final grade. According to the system of grading employed 100% is regarded as a perfect grade and 70% as a passing grade. The mid-semester standing of the student is based on the daily recitation grades and on a special test given during one or more regular recitation periods. Mid-semester grades are not entered on the registrar's record. The final grade is based on the class standing for the entire semester and on a written final examination to which a special period of two or three hours is devoted, except that in the second semester the manner of determining the final grade of senior and graduate students provisionally approved for graduation shall be left with the instructor. Any such student shall however have the right to take the examination with his class if he so desires.

Final examinations are held during the last week in each semester.

Absence from Examination. If the student attends the course throughout the semester and is absent from examination without permission, the instructor shall count the examination as zero, and report the final grade as one-half the recitation grade. If the student is absent from examination for reasons satisfactory to the instructor and has a recitation grade of eighty-five or over, the instructor may report the recitation grade as the final grade in the subject. If the recitation grade is under eighty-five, and the absence is for satisfactory reasons, the fact will be recorded on the student's class card and on the class officer's record, and the student may on application to the instructor obtain permission to take the examination at a later time.

Reports. Instructors must report all grades to the proper class officers on the class cards presented by the students at their entrance to the course. Mid-semester grades must be reported on or before the "Day for Mid-semester Reports," as announced in the calendar. Final grades for the students in each course must be reported within two days after the close of the final examination in that course. In no case should instructors report a grade as "incomplete" or hold it over to a later time. Each class card except in cases of absence from examination as provided above, must bear a definite percentage grade. The class officers will enter these grades on their reports and present the latter to the registrar not later than the Monday following the close of the mid-semester or the final examination period.

In the second semester the final standing of all senior and graduate students provisionally approved for graduation must be reported to the class officers not later than two weeks before commencement day. The class officer must report these grade to the registrar within two days. Examinations to remove any conditions pending for these

students must be taken before the regular final examination period begins.

At the mid-semester report period the class officer should return the class cards to the various instructors immediately after recording the grades. After the final grades have been reported and recorded at the end of the semester the class officer should retain the class cards in his files for at least four years before destroying them.

Conditions and Failures. If the final grade of any student for any course is below sixty, it shall be recorded as a "failure," and the student must take the course again if he desires credit for it. If the final grade is sixty, or over, but below seventy, it shall be recorded as a "condition," and the student shall have the privilege of a second examination. Request for such a second examination must be made to the instructor not later than ten days after the opening of the succeeding semester and the examination must be taken at the time designated by him. A condition not removed within the semester following the one in which it was imposed becomes a failure. If the final grade after a second examination is again below seventy, it shall be recorded as a "failure."

Reports to Parents. A report of each student's work is made at the close of each semester, either to the student himself or to his parent or guardian. A complete record is also kept in the registrar's office. The fee for making a copy of this record after the semester reports have been sent out is one dollar.

In case where a student's work is unsatisfactory as shown by the mid-semester test, a mid-semester report will also be made both to the parent or guardian and to the student.

SUSPENSIONS.

1. Any student who fails either to make a standing of seventy per cent in courses amounting to a least half of the total number of semester hours for which he is registered, or to make an average standing of at least sixty per cent, in all of his courses for any semester is suspended from the University for the succeeding semester. If, however, the failure as above is due to the abandonment of any class, or to withdrawal from the University without permission, or to absence from examination without reasonable excuse, the suspension becomes indefinite.

Any student whose average standing in all studies as shown by the preliminary or mid-semester report is less than fifty per cent is suspended from the University for the remainder of the semester.

2. If a student suspended by the operation of the above rule re-enters the University and again becomes subject to it, his suspension becomes indefinite.

WORK DONE OUT OF RESIDENCE.

The doing of regular residence courses in absentia is discouraged. In cases of courses begun at the University and not completed by reason of illness or otherwise, however, permission to complete the work in absentia under the direction of the regular University instructors may be granted by the Committee on Classification and Grades; but in such cases credit shall be given only upon report of a grade of not less than eighty per cent on final examination.

The foregoing statement does not apply to University Extension Courses.

DEGREES.

All University degrees are conferred by the State Board of Education upon recommendation of the University faculty. Degrees are granted only once in each year at the annual University commencement.

The names of all students who are to appear as candidates for degrees in any year must be presented by their respective class officers to the dean of the college not later than January 1. All students who intend to present themselves as candidates for degree in any year should as a rule, therefore, give notice of their intention to their respective class officers not later than December 1.

BACCALAUREATE DEGREES.

Credits Required.

The various baccalaureate degrees conferred by the University and the number of semester hours of work required for each degree are as follows:

Bachelor of Arts, (A.B.)
- Regular course ---------- 128 Hrs.
- Combined course for A.B. and LL.B. degrees--- 124 Hrs.
  (96 hours in College of Arts and Science and first year course, 28 hours, in College of Law.)

Bachelor of Science, (B.S.)
- Combined course, preliminary to degree in medicine ---------- 136 Hrs.
  (64 hours in College of Arts and Science, and two years' work, 68 to 72 hours, in School of Medicine.
- Combined course, preliminary to degree in Engineering ---------- 128 Hrs.

Bachelor of Laws, (LL.B.)---------- 118 Hrs.
(32 hours in the College of Arts and Science and 86 hours in the College of Law.)

Bachelor of Science in Mechanical Engineering, (B.S.M.E.) ---------- 148 Hrs.

Bachelor of Science in Civil Engineering, (B.S.C.E.) ---------- 148 Hrs.

Bachelor of Science in Electrical Engineering, (B.S.E.E.) ---------- 148 Hrs.

Bachelor of Science in Engineering of Mines, (B.S.E.M.) ---------- 148 Hrs.

Bachelor of Science in Chemical Engineering, (B.S.Chem.E.) ----------148 Hrs.
Bachelor of Science in Agriculture, (B.S.Agr.)---144 Hrs.
Bachelor of Science in Home Economics, (B.S.H.E.) ----------128 Hrs.

Requirements as to Residence.

Students who come to the University from other colleges or universities are advised to make the transfer not later than the beginning of the junior year and in no case will a student who matriculates in the University later than October 1 in any year be permitted to receive a degree at the next commencement.

In special cases students who desire to leave the University at the close of the junior year to enter another institution with the purpose of taking a combined course leading to two degrees or of preparing for graduate study may, upon application beforehand to the Committee of Classification and Grades, be permitted to do the work of the senior year, or a part thereof at such other institution and to receive the bachelor's degree from the University upon the presentation of the proper credits.

In no case, however, will a student be granted a bachelor's degree from this University who has not done either a total of ninety hours of his work or the last thirty hours of it in actual residence at the University.

GRADUATE DEGREES.

The University does not confer the degree, Doctor of Philosophy, but will certify to other institutions such graduate work as may be applicable toward this degree.

The University confers the following master's degrees: Master of Arts (A.M.), Master of Science (M.S.), Master of Science in Mechanical Engineering (M.S.M.E.), Master of Science in Civil Engineering (M.S.C.E.), Master of Science in Electrical Engineering (M.S.E.E.), Master of Science in Engineering of Mines (M.S.E.M.), and Master of Science in Agriculture (M.S.Agr.). A master's degree is conferred upon the following conditions:

Candidacy.

1. A candidate for a master's degree must hold a bachelor's degree from West Virginia University or from another institution in which the requirements are substantially equivalent. He must have completed all the essential requirements for the bachelors' degree corresponding to the master's degree for which he applies.

Those who wish to become candidates but lack undergraduate preparation will be admitted to graduate study, but must at once make up their deficiencies by taking the necessary undergraduate courses

On completion of such undergraduate courses they become eligible to candidacy.

Those who have received their bachelor's degree and wish to broaden their education without reference to a higher degree, will be admitted to graduate study without restriction as to courses.

Seniors in the colleges of West Virginia University who have completed the work for the bachelor's degree but who have not yet received the degree, may have work credited toward the master's degree at the discretion of the Committee on Graduate Work.

2. **Application for Admission.** Students who desire to register for graduate courses leading to a master's degree should submit their applications for admission to candidacy to the degree to the Committee on Graduate Work, either in person or by letter, some weeks prior to the opening of the semester in which they desire to register. Blank forms can be obtained on application. The application must be in the hands of the Committee at the time when the student presents himself for registration in the courses which he desires to take for graduate credit and not later than October 1 in the college year in which he desires to have the degree conferred.

In his application the student must announce his choice of a major subject and must submit a general outline of his proposed course of study. The major subject chosen must be either the same as the undergraduate major or one in which the candidate has an equivalent undergraduate preparation.

The Special Sub-Committee.

If the student is accepted as a candidate for the master's degree the Committee on Graduate Work will appoint a special sub-committee of three professors, including the professors in charge of the work in the candidate's major and related subjects, whose duties shall be: (a) to arrange a specific course of study; (b) to act as advisers; (c) to examine and pass upon the thesis should one be required; and (d) to conduct the final examination.

Requirements for the Degree.

1. **Term of Residence.** Time and facilities are recognized as two important essentials for bona fide graduate work. A candidate must pursue graduate courses in residence at the University for at least thirty-six weeks after the completion of the work for his undergraduate degree. Graduate credit is not given for work done **in absentia**, except in case of a thesis requiring research which can be conducted to advantage elsewhere.

2. **Course of Study.** The candidate must do thirty-two hours of graduate work, which at the discretion of the department in which he has chosen his major subject may or may not include a thesis. At least ten hours, exclusive of thesis, shall be in the candidate's

major subject; and any remaining hours shall be in subjects related thereto. Courses primarily designated for graduate students and distinctly senior courses open to graduates, are indicated in the catalogue, but other advanced courses and special research courses not listed in the catalogue may be credited with the approval of the Committee on Graduate Work. In rare instances advanced undergraduate courses, not regularly open to graduates, may be approved for graduate work with reduced credit; but elementary courses are never credited.

No work done before the completion of the work required for the bachelor's degree will be credited toward the master's degree unless the work and courses have been regularly approved by the committee.

The specific course of study must be presented to the Committee on Graduate Work for its approval within two weeks after the acceptance of the student's application.

NOTE—Since the principal aim of graduate study is the development of the knowledge necessary to do independent work and the promotion of the spirit of research, each candidate for a degree is expected to have a wide knowledge of his subject and of related fields of work and to pursue a course of related reading and study in addition to his University work.

3. **Thesis.** A statement of the general subject of the thesis, with the written approval of the chairman of the special committee, must be furnished to the Committee on Graduate Work within six weeks after the acceptance of the student's application. The thesis shall show acceptable investigation in the major subject. It shall be prepared under the direction of the department in which the student has chosen his major and shall be submitted for approval to the special committee at least four weeks previous to the commencement day at which the degree is expected. The thesis shall be presented in such form as may be prescribed by the Committee on Graduate Work. If the thesis is approved, two typewritten or printed bound copies shall be deposited in the University Library at least one week before the degree is conferred.

4. **Final Examination.** The final examination of the candidates shall be oral and shall cover the major and related courses and thesis, or such part thereof as the special committee may deem desirable. This examination shall be open to the public and shall be held at least three weeks before the commencement day on which the degree is expected. The Committee on Graduate Work shall delegate one of its members to attend the examination.

The special committe shall report their opinion of the thesis and the result of the examination of the candidate to the Committee on Graduate Work at least ten days before commencement.

NOTE—For announcement concerning professional degrees in the College of Engineering, see the announcements of that college.

GENERAL INFORMATION

DISCIPLINE.

The rules and regulations which students are required to observe are few, simple and reasonable; civil and orderly conduct; punctuality and regularity in attendance upon all required exercises; reasonable diligence in the performance of the work prescribed, and abstinence from vices.

Students who do not comply with these requirements will not be allowed to remain in the University.

All matters of discipline are in charge of the President of the University in consultation with the dean of the college or head of the division of the University in which the student concerned is enrolled.

THE CONVOCATION.

The University Convocation is held every Wednesday morning at ten o'clock in Commencement Hall, under the direction of the Chaplain of the University. No classes or other University exercises are held at this hour, and opportunity is afforded for all members of the University, both instructors and students, to attend the meeting. The hour is occupied by lectures and addresses, discussion of student interests and problems, and the consideration of questions relating to the general University welfare.

In connection with the weekly convocation brief devotional exercises are held. The singing at these exercises is in charge of the Director of the School of Music. Attendance is entirely voluntary.

CHRISTIAN ASSOCIATIONS.

The Young Men's Christian Association is a voluntary association of college men for the purpose of promoting and directing widely varied student activities from a religious motive.

Membership is open to all men of the University. The annual membership fee is $2.00.

The administrative policy is directed by the student cabinet, and by the faculty advisory board. A secretary is employed to assist in directing the work. The office and reading room is in Woodburn Hall.

Weekly devotional meetings are held. Other features of the work are the Bible Study courses which enroll a large number of men; the Employment Agency; Boarding and Rooming House Directory; the publication of the University Directory and Handbook. All correspondence should be directed to the General Secretary.

Membership in the Young Women's Christian Association is open to all young women in the University. Regular devotional meetings are held weekly.

PHI BETA KAPPA.

The Alpha of West Virginia Chapter of the Phi Beta Kappa Society is established at the University. Stated meetings or public exercises of the Society are held twice annually: the anniversary meeting on December 5, and the annual meeting during Commencement week. The honor of membership may be conferred upon candidates for the degree of Bachelor of Arts who have maintained a high scholarship rank during their college course; also upon members of the faculty and alumni of the University, and upon distinguished citizens of the state. The president of the chapter for the year 1921 is Professor Madison Stathers; the secretary, Professor E. H. Vickers.

THETA PSI.

The Theta Psi Honorary Engineering Fraternity is an organization to which students in the College of Engineering may be elected upon the attainment of certain specified high standards of scholarship in undergraduate courses. Elections are held each fall on the basis of grades attained in the work of the previous year.

STUDENT ORGANIZATIONS.

There are in the University various societies and clubs, devoted chiefly to the educational, social and athletic interests of the students. Several Greek letter fraternities and sororities have established chapters at the University and most of these occupy their own chapter houses.

Some of the more important of the student organizations are:

1. The Columbian Literary Society. Regular meetings every Friday night in its own hall in Martin Hall. Membership open to all students of the University.

2. The Parthenon Literary Society. Regular meetings every Friday night in its own hall in Martin Hall. Membership open to all students of the University.

3. The University Dramatic Club. The purpose of this organization is to stimulate an interest in literary and dramatic work in the University. This is accomplished through the practical and systematic study of standard plays, and through the public presentation of at least one play in each college year. All University students are eligible to membership in the Dramatic Club, but those desiring to enter must pass a series of tests under the direction of the professor of public speaking.

4. The Crucible. Membership open to advanced students in the department of chemistry. Meetings on the first and third Fridays of each month at 4:30 p. m.

5. The Engineering Society. Regular meetings the first and third Friday nights of each month in its room in Engineering Hall. Membership open to all students in the College of Engineering and Mechanic Arts.

6. The University Grange, Number 373, Patrons of Husbandry. Regular meetings on alternate Wednesday evenings. Membership open to all students in the College of Agriculture and to others who may be elected.

7. The English Club. Regular meetings on the first Thursday night of every month.

8. The Beowulf-Gedriht. Regular meetings in October, November, February, April and May. Open to all members of the University upon the fulfillment of certain scholarship qualifications.

9. The Agricultural Association. An organization of the students of the College of Agriculture to promote their general interests. Meeting on first Thursday of each month.

11. West Virginia University Scientific Society. Regular meetings on the last Friday night of every month. Membership is open to members of the faculty giving instruction in scientific subjects, local investigators in scientific subjects, teachers of science in the public schools, and graduate students in science in attendance at the University.

12. The University Choir. This organization under the direction of the Director of the School of Music is composed of about thirty selected voices and sings in the weekly Convocation exercises. Special appropriate programs are presented at festival seasons.

13. The Education Club. The purpose of the club is to develop and maintain a professional attitude in those who are preparing for education work, to study the needs of schools, and to contribute to the advancement of education. Regular meetings are held on the fourth Thursday night of each month.

14. American Institute of Electrical Engineers. West Virginia University Branch. Meetings monthly. Membership open to students in the Department of Electrical Engineering.

15. Mining Society. (An affiliated student society of the American Institute of Mining and Metallurgical Engineers). Meetings every two weeks. Membership open to students in Mining Engineering.

STUDENT PUBLICATIONS.

The Athenaeum, a weekly college newspaper, is published by the students who elect annually the editorial staff.

The College Annual, The Monticola, is published by the junior class.

All student publications are under the supervision of a faculty committee on student publications.

STUDENT SOCIAL LIFE.

The general oversight of the social activities of the student body and of the fraternity and sorority life in the University is placed in the hands of committees of the faculty. The Committee on Fraternities and the Committee on Sororities are constituted in accord with the following order of the Board of Education:

(1) No fraternity nor sorority, other than those now in existence in the University shall be established without the consent of the University Council of Administration. Application for this consent shall be made by a petition signed by all of the students interested.

(2) No student shall be initiated into any fraternity or sorority, nor reside in any fraternity house, until such student has been in residence at the University one full semester, and has received credit on the records of the University for not less than twelve semester hours of work done in the University classes; nor shall any student be initiated into any fraternity or sorority, who has not full college standing. The requirement of one semester's residence will be waived in the case of a student coming into the University from any other university or college, and receiving advanced standing sufficient to give a classification of sophomore or higher.

(3) Each fraternity at the beginning of each scholastic year, shall designate two of its members as a committee to represent the fraternity in all matters calling for conference with the President of the University or University authorities. Each sorority shall likewise select a committee of two to represent it in such conferences. Each fraternity and sorority shall certify to the registrar the names of the members chosen for its committee within two weeks after the opening of the fall semester of each year.

(4) The President of the University shall appoint a member of the faculty as a faculty representative for each fraternity, and in making such appointment he shall consult with the committee of each fraternity provided for in Rule 3. He shall in like manner appoint a faculty representative for each sorority. Wives of members of the faculty may be appointed by the President as faculty representatives of sororities.

It shall be the duty of the faculty representative to keep in touch with the life and work of the fraternity or sorority, and to be the representative of the University under the direction of the President in all matters that may arise between the University and the fraternity or sorority. The faculty representatives of fraternities shall constitute a general committee of the faculty on fraternities, and the faculty representatives of sororities shall constitute a like committee on sororities.

(5) No person who is not a student of the University shall be initiated into any fraternity or sorority without the permission of the University Council of Administraton.

(6) All efforts of fraternities or sororities to secure new members commonly known as "rushing" shall be under such regulations as may be agreed on by the fraternities and sororities. In the event of no agreement by fraternities or sororities, such regulations shall be made by the faculty committee on fraternities or the faculty committee on sororities in consultation with the fraternity or sorority

committees, as provided in Rule 3 of this order. When approved by the Council of Administration such regulations shall be in full force and effect.

The social life of the students in the University is under the general supervision of the faculty Committee on Social Affairs. This committee has supervision of every social function given by the University or by any organization within it, including fraternities, sororities and other student societies. Such social functions as balls, dances, picnics, excursions and receptions are supervised by this committee. The committee approves all dance programs, supervises the issuance of invitations for functions of a general University nature and sees that all social affairs held in the University are properly conducted.

In the performance of its duty the committee is governed by the following general regulations of the Board of Education:

(1) No indoor social function shall be given by the University or any of its departments or organizations in any other place than in University buildings. For this purpose, houses occupied by chartered fraternities or sororities, and the University leased dormitories shall be considered University buildings.

(2) No social affairs at night, of which dancing is a feature, shall be permitted to continue longer than 1 a. m. and this hour is allowable only in formal or "full program" affairs. Ordinary parties, dances, etc., must close not later than 11:30 p. m. Picnics, excursions, boat rides, etc., extending into the night, must be so arranged that the return to the University shall not be later than 11:30 p. m.

WOMEN'S STUDENT GOVERNMENT ASSOCIATION.

All women students of the University whose homes are not in Morgantown, whether they live in the Women's Hall, in sorority houses or in rooming houses in town, are members of the Student Government Association. The purpose of this association is to regulate all matters pertaining to the student life of its members, to further in every way the spirit of unity among the women of the University, to increase their sense of responsibility, and to be a medium for maintaining a high scholastic standard.

The officers of the association include a president, vice-president, secretary, and treasurer. Representatives from each class, and house-presidents, with the officers, constitute an executive board, which fixes all rules of the association and enforces penalties for their violation. The officers and members of the executive board are elected annually by the association. The board is responsible to the faculty advisory board of the association for all matters pertaining to the social life of the students. This advisory board consists of the dean of women and two other members of the faculty appointed by the President of the University.

In 1921 the association was admitted to active membership in

the Intercollegiate Association of Student Government for Women Students.

THE DEAN OF WOMEN.

All the interests of the women students of the University are in charge of a special executive officer of the University, the dean of women. She is a member not only of the advisory board of the Student Government Association but also of the faculty Social Committee. Thus she is cognizant of all social activities engaged in by women students. The dean is a resident of the Women's Hall, where she comes into intimate personal relation with the young women and has immediate supervision of their social life.

THE WOMEN'S HALL.

The rooms in the Women's Hall accommodate 104 young women; the dining rooms nearly 300. Miss Susan Maxwell Moore, dean of women, is in charge of the hall. The Women's Hall Annex on Willey street affords rooms for 40. Mrs. Bertha Browning Purinton, the assistant to the dean of women, is in charge of the Annex. Those desiring information as to prices, board, or available rooms, either in the main dormitory or the Annex, should apply to Miss Moore.

OTHER ROOMING PLACES FOR WOMEN STUDENTS.

With the approval of the dean of women young women students whose parents are not residents of Morgantown and who can not find accommodation in the hall, may secure rooming and boarding places with private families in the town. Such students are expected to conform to the usual hall rules regarding callers and hours and are not permitted to change their places of residence, or to be absent from Morgantown, or from their own rooms over night, without the permission of the dean of women.

BOARDING AND ROOMING PLACES.

The matter of furnishing information to new students regarding suitable boarding and rooming places is in charge of the Y. M. C. A. and Y. W. C. A. of the University. On their arrival in Morgantown new students should come directly to Woodburn Hall, where they will find complete lists of rooms and boarding places and also upper classmen who will help them in finding lodgings and in matriculating. During the opening days of the semester, committees from the two Christian Associations meet new students at trains and are ready to render them every assistance possible.

Young men desiring information in advance of their arrival in Morgantown, may address the University Y. M. C. A., Morgantown, W. Va. Young women may address Miss Susan M. Moore, Dean of Women.

AID FOR STUDENTS.

The Employment Bureau, organized by the University Y. M. C. A., undertakes to assist earnest and worthy students who are dependent upon their own efforts for the expenses of their education, to obtain various forms of employment in Morgantown. Prospective students desiring such aid should write to the secretary of the Y. M. C. A., before entering the University, stating the kind of work desired and the nature of past experience in any occupation. The work consists largely in waiting on table, caring for rooms and lawns, clerking in stores, stenographic services, etc.

PRIZES.

Awards for prizes in the University are made in accordance with the following rules:

No manuscript in whole or in part, shall be submitted in competition for two prizes.

Only students pursuing courses leading to baccalaureate degrees are eligible for any prize offered, except for the James F. Brown prize.

No student shall be eligible to enter any contest who has not been a resident student in this University for at least one semester preceding the semester in which the contest is to be held, and who, unless he be a competitor for the James F. Brown prize, is not a resident student in good standing in the University in the semester in which the contest is held.

No successful contestant may become for a second time a competitor for the same prize.

If in any contest the judges find no manuscript of sufficient merit, there shall be no award of that prize for that year.

Students who intend to compete in any essay-writing contest must notify the chairman of the Committee on Prizes not later than March 15. Three typewritten copies of each essay must be in the hands of the chairman of the committee not later than May 15.

The conditions upon which the awards in the several contests are made may be learned upon application at the President's office, or to the members of the Committee on Prizes.

The more important prizes offered in the University are:

The Bryan Prize in Political Science.

The Hon. William J. Bryan has given a sum of money, the annual income of which is to be offered as a prize to the student in the University who shall write the best essay on some subject in the science of government. The amount of the prize for the present is $15.00.

The Tax Commission Prize.

The members of the State Tax Commission of 1902, W. P. Hubbard, Henry G. Davis, John K. Thompson, L. J. Williams and J. H. Holt, have given the sum of $1,350, the income of which is to be used annually as a prize for the "best original work bearing on matters of taxation in West Virginia." The conditions of competition are determined by the Council of Administration. The amount of the prize at present is $70.00.

The Russell Love Morris Prize.

Russell Love Morris, C. E., Professor of Civil Engineering, offers a prize of fifty dollars annually to the student of civil engineering who presents the best thesis on some subject of special application to the needs and resources of West Virginia.

The James F. Brown Prize.

Mr. James F. Brown, an alumnus of the University, "with a desire to stimulate the young men of the State to fuller consideration of the 'inalienable rights' of mankind, and especially those guaranteed by the Constitutions of the State and of the United States," has contributed to the University the sum of five thousand dollars to be invested and the income is to be "used as a prize for the best essay or paper each year on the subject of the individual liberties of the citizen as guaranteed by the constitution." The income may be given as a single prize, or it may be divided into a first and a second prize. For the present the award will be made as a single prize. It was first offered in the academic year 1920-1921. Any senior or any graduate of any college of the University, within one year after receiving any bachelor's degree, may compete for this prize. But no holder of any graduate degree may become a competitor.

Inter-Fraternity Scholastic Trophies.

Arleigh Lee Darby, Associate Professor of Romance Languages, offers a silver cup known as the Inter-Fraternity Scholastic Trophy. It is awarded at the end of the year to the fraternity having the highest average scholarship standing for that year and remains in the possession of that fraternity during the following year. The cup becomes the permanent property of the fraternity that first wins it three times.

Aaron Arkin, Professor of Pathology and Bacteriology, offers a silver cup to be called the "Inter-Sorority Scholastic Trophy." This prize will be awarded at the end of the academic year to the sorority having the highest average scholarship standing for the year. It

will be in possession of that sorority for the following year. The cup will become the permanent property of the sorority that first wins it five times.

BUREAU OF RECOMMENDATION.

The Bureau of Recommendation, under the direction of the department of education, has for its aim:

1. To keep a record of the students or alumni of the University who wish to teach, to gather information as to their academic and professional qualifications and personal fitness for school work, and to recommend for vacancies those who seem most likely to prove themselves efficient.
2. To keep a similar record of alumni who wish to be transferred to other positions.
3. To assist boards of education and other school officials in securing teachers, and to co-operate with teachers' agencies in placing graduates of the University.

Students desiring recommendation for positions as teachers should take at least twenty hours in education. Those desiring recommendation for a position in a normal school or as principal or superintendent of schools should take at least thirty hours in education.

No student is assured of a position. General letters of recommendation are not given to students. Information obtained from professors and others is regarded as confidential. No charge is made for any services rendered. Blanks for registration will be furnished on application. The following is the committee on recommendation: President Trotter, Professors Winkler, Hill, Cavins and Hudelston and Professor Deahl ,secretary.

HIGH SCHOOL AND SUPERVISOR'S CERTIFICATES.

Graduation from the University with not less than twenty semester hours in education will secure recommendation for high school and for supervisor's certificates according to the following regulations:

1. No courses in education will be counted as part of the twenty hours unless approved by the Department of Education.
2. Persons who have received advanced standing in education must do at least ten semester hours in regular college courses. These courses must not repeat those taken in another school and they must be advanced work.
3. Only a limited number of hours done in the summer school may be counted toward certification.
4. Candidates for certifiication must demonstrate their fitness for recommendation by successful teaching in Education 10 or 22.
5. For the supervisor's certificate not fewer than five hours must be taken in administration and supervision.

SCOPE OF THE ENTRANCE REQUIREMENTS.

The following description indicates the extent of preparation expected in each of the several subjects offered for entrance credit for admission to the various colleges of the University.

ENGLISH.

Grammar and Elementary English. No student will receive full entrance credit in English whose work shows marked deficiency in spelling, punctuation, grammar, sentence structure, or paragraphing. The student should be prepared to state intelligently the essential principles of English grammar and to explain the syntactical structure of any sentence encountered in his reading. An elementary textbook on grammar should have been completed before the student enters upon his high school course. For more advanced study of the subject and for practical review, the material presented in the ordinary high school text-books on rhetoric may be utilized. The subject should be constantly reviewed in connection with the work in composition during the four years in the high school course.

Rhetoric and Composition. Systematic practice in theme writing and other forms of oral and written composition with instruction in the principles of rhetoric and the forms of discourse must form an important part of each unit of English. At least one theme weekly should be required throughout the course. Students who are not able to express themselves in clear, correct, and idiomatic English will not be given full credit. The subject upon which the student writes should not be drawn exclusively from literature. A considerable portion of them should be so distributed as to give proper training in the various forms of discourse.

Literature. In addition to the reading and study of English classics as outlined below, the student throughout his high school course should have opportunity to become familiar with the best mazagines and newspapers and with the best current fiction and poetry.

The four units in English should include the following:

(a) One unit. English Classics and English Composition. The study of at least five English classics selected from the list below. The simplest narrative classics, both prose and poetry, should be selected. The aim of the work should be to stimulate interest in good literature and to enable the student to form vivid mental pictures and to understand fully the thought expressed. The aim of the composition work should be to secure facility and accuracy. The work

should include letter writing, short themes in narration and description, and study of paragraphing and sentence structure.*

(b) One unit. English Classics and English Composition. Study of several other English classics. The work should include more complex forms of fiction and narrative poetry, simpler essays, and at least one of Shakespeare's plays.

(c) One unit. English Classics and English Composition. Reading and study of narrative and lyric poetry, of more difficult essays, and of several of Shakespeare's plays. In the work for both the second and the third units the aim should be to make a study of form, structure, style, and purpose of the selection; the author's life; relation of the selection to its age and to other works of similar type. For both units the work in composition should include themes of moderate length in all forms of discourse; study of unity, coherence, and emphasis in sentences and paragraphs; kinds of sentences; diction; figures of speech.

(d) One unit. Advanced study of Classics; Rhetoric. A thorough and intensive study of the form, structure, and style, of at least one typical example of the novel, the drama, the lyric or epic poem, and the essay. A study of the principles of rhetoric employing some good advanced high school text-book, with frequent and systematic theme writing, must form a part of this unit.

The following list of classics is suggested:

I. Longfellow's Evangeline and Courtship of Miles Standish; Whittier's Snow Bound; Lowell's Vision of Sir Launfal; Coleridge's Rime of the Ancient Mariner; Macaulay's Lays of Ancient Rome; Goldsmith's Deserted Village; Irving's Sketch Book; Hawthorne's Twice Told Tales; Franklin's Autobiography; Aldrich's Story of a Bad Boy; Warner's Being a Boy, A Hunting of the Deer, etc.; Burroughs' Sharp Eyes, Birds and Bees, etc.; Dickens' Christmas Carol; Stevenson's Treasure Island.

II. Stories from the Bible; Scott's Lady of the Lake, Marmion, Ivanhoe, Quentin Durward; George Eliot's Silas Marner; Goldsmith's Vicar of Wakefield; Mrs. Gaskell's Cranford; Cooper's Last of the Mohicans, The Spy, The Pilot; Blackmore's Lorna Doone; Dickens' Tale of Two Cities, David Copperfield; Arnold's Sohrab and Rustum; Byron's Mazeppa and the Prisoner of Chillon; Shakespeare's Merchant of Venice, As You Like It, Julius Caesar, Twelfth Night; Addison's De Coverly Papers; Thoreau's Succession of Forest Trees; Stevenson's An Inland Voyage and Travels with a Donkey; Kipling's Captains Courageous.

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* Reading of good literature outside of class and memorizing of notable passages in prose and verse should be required, but outside reading accompanied by written reports or reviews made according to a stereotyped model, in place of a thorough study of assigned lessons, class instruction and discussion, will not be considered as satisfactorily fulfilling the requirement of any unit.

III. Page's Red Rock; Churchill's Mr. Crewe's Career; Thompson's Alice of Old Vincennes; Norris' The Pit; Jackson's Ramona; Smith's Caleb West, Master Driver; Johnston's To Have and to Hold; Van Dyke's The Blue Flower and Other Stories; Mitchell's Hugh Wynne—Free Quaker.

IV. Novels; Thackery's Henry Esmond; George Eliot's Silas Marner or Romola; Jane Austin's Pride and Prejudice; Hawthorne's The House of the Seven Gables. Dramas: Shakespeare's Macbeth, Lear, or Henry V. Poems: Tennyson's Idylls of the King; Milton's Shorter Poems; Browning's Selected Poems; Palgrave's Golden Treasury. Essays: Lamb's Essays of Elia; Emerson's Essays; Ruskin's Sesame and Lilies; Carlyle's Heroes and Hero Worship; Essay on Burns; Macaulay's Essay on Addison and Life of Johnson; Washington's Farewell Address; Webster's Bunker Hill Oration; Lincoln's Gettysburg Speech, etc.

LATIN.

(a) One unit. Such knowledge of inflection and syntax as is given in any good preparatory Latin Book, together with the ability to read easy selections from Caesar.

(b) One unit. Four books from Caesar's Gallic War, or its equivalent in Latin of equal difficulty. The ability to write simple Latin based on the text.

(c) One unit. Six orations of Cicero. The ability to write simple Latin based on the text. The simpler historical references and the fundamental facts of Latin syntax.

(d) One unit. Six books of Virgil, with history and mythology. Scansion of hexameter verse. Either (c) or (d) may be offered for the third unit, but one year of composition must be included.

GREEK.

(a) One unit. Introductory lessons, elements of grammar; easy translations from the Anabasis: translation into Greek of easy continuous prose based upon the Anabasis.

(b) One unit. Xenophon, the first four books of the Anabasis.

(c) One unit. Homer, the first three books of the Iliad (omitting II-492 to end) and the Homeric constructions, forms and prosody; constant practice in sight and prose composition.

GERMAN.

(a) One unit. A thorough knowledge of elementary syntax; constant drill in pronunciation, oral translation, and composition; translation of seventy-five to one hundred pages; advanced syntax; composition throughout the year.

(b) One unit. Modern prose and familiar poems, two hundred pages; advanced syntax; intermediate composition throughout the year.

(c) One unit. Advanced prose, four hundred pages; advanced composition throughout the year.

FRENCH.

(a) One unit. (1) The essential principles of French etymology and syntax, and especially, a thorough knowledge of the pronoun and of the regular and irregular verb; (2) ability to write in French sentences of moderate difficulty; (3) the reading of from one hundred and fifty to two hundred pages of modern French prose; (4) ability to pronounce the language correctly and with some fluency.

(b) One unit. (1) Twenty pages of advanced prose composition; (2) at least three hundred pages of modern French prose; (3) at least three hundred pages of modern French plays.

HISTORY.

From one to three units may be offered, selected from the following:

(a) Ancient History to 800 A. D.—one unit.

(b) Mediaeval and Modern European History—one-half to one unit. The amount of credit will depend upon the time given to the subject.

(c) English History—one-half to one unit. The amount of credit will depend upon the time given.

(d) American History, or American History and Civics—one unit.

The student should be familiar with the important events and should have a clear knowledge of the general development of the period of history which he offers for credit.

A whole year that covers the whole field of general history with a good text-book and with notes on collateral reading and preparation of maps will be accepted as one unit, although it is believed that

better results will be obtained by spending a whole year on ancient history and another year on the mediaeval and modern period.

American history and civics should be preceded by English history, and should not be given before the third year in the high school course, in case three years are given to history. Ancient history should be followed by English history in case mediaeval and modern history are not given.

The study of civics must not precede the study of American history; and, if studied as a separate branch following the course in American history, some advanced text such as Forman's Advanced Civics should be used. An outline knowledge of elementary civics, such as is presented in Forman's First Lessons in Civics, or in Peterman's Civics, is presupposed.

MATHEMATICS.

(a) Algebra through quadratics—one unit. The four fundamental operations for rational algebraic expressions; factoring, highest common factor, lowest common multiple, complex fractions, solution of equations of the first degree, radicals including the extraction of the square root of polynominals and numbers, fractional and negative exponents, quadratic equations, and equations containing one or more quadratic equations, and problems involving the use of such equations.

(b) Plane geometry—one unit. The completion of any standard text with original exercises and problems.

(c) Algebra—one-half unit. Review of essentials followed by ratio and proportion, the binominal theorem for positive and integral exponents, arithmetical and geometrical progressions.

(d) Solid geometry—one-half unit. Properties of straight lines and planes, dihedral and polyhedral angles, projections, polyhedrons, including prisms, pyramids, and the regular solids, cylinders, cones, and spheres, spherical triangles, measurements of surfaces and soils.

(e) Plane trigonometry—one-half unit. Definitions and relations of the six trigonometrical functions as ratios, proofs of important formulae, theory of logarithms and use of tables, solutions of right and oblique plane triangles.

SCIENCE.

(a) Physics—one unit. Credit will be given for one year's work with any standard text-book, upon the presentation of a satisfactory note-book, covering at least thirty-two experiments. The note book should contain the student's own record of his laboratory experiments

and a signed statement from his teacher that the book is the original record of the student's observations. Students deficient in laboratory work may make up this deficiency in the University.

(b) Chemistry—one unit. Credit will be allowed for the completion in a satisfactory manner of any standard elementary text in inorganic chemistry, accompanied by individual laboratory work. A full year should be given to the work.

(c) Botany—one unit.

(d) Zoology—one unit.

Work in either botany or zoology, to be credited, must have been accompanied by individual laboratory work. The exact extent of the work which should be done cannot be stated here, but, for the maximum credit, it should be as much as a competent teacher, trained in laboratory methods, can accomplish in from one to one and one-half years. In estimating the time employed, two hours of laboratory work will be counted as the equivalent of one recitation period. It will be necessary for applicants to present their laboratory notes and drawings.

In botany the class should cover the ground of Coulter's "A Text Book in Botany," or Bergen's "Foundation of Botany," or their equivalent.

In zoology the class work should cover about what is represented in Kellogg's "Elementary Zoology" (Henry Holt), or in Parker and Haskell's Zoology, one-volume edition (Macmillan & Co.). The amount of laboratory work that should be done is somewhat less than is outlined in Scheffer's manual (Blakiston).

(e) Biology. A half year of botany and a half year of zoology each accompanied by individual laboratory work.

(f) Physical Geography—one-half unit.

(g) Physiology—one-half unit.

Credit for one-half unit each in physical geography and physiology will be allowed—as elective only—if taught in a scientific manner in an accredited or recognized secondary school. The use of a standard text should be supplemented by proper illustrative methods and proper observation. One-half year must be given to each subject.

MUSIC.

One-half unit for each year of work satisfactorily completed.

The University will accept for entrance credit applied music study, i. e., the study of piano, organ, or instrument of the symphony orchestra, when carried on outside the schools under private instruction, provided that the plan outlined by the School of Music of the University has been followed. This plan and full information may be obtained by addressing the Extension Department, School of Music, West Virginia University.

The work in music should be along the lines followed in "The School Credit Piano Course" or similar text. Examinations are based on the outline issued by the School of Music.

OTHER ENTRANCE SUBJECTS.

More complete information regarding the nature of the preparation required for entrance credit in other high school subjects may be found in the "Course of Study for the Junior and Senior High Schools of West Virginia," published by the State Board of Education, Charleston, 1919.

CLASSIFIED HIGH SCHOOLS, 1920-1921.

HIGH SCHOOLS OF FIRST CLASS.

Adamston, Coal district, Harrison County
Alderson, Alderson independent district, Greenbrier County
Ansted (conditional), Mountain Cove district, Fayette County.
Beckley, Town district, Raleigh County.
Belington, Belington independent district, Barbour County.
Benwood, Union district, Marshall County
Berkeley Springs, Bath district, Morgan County
Berwind, Big Creek district, McDowell County
Blacksville (conditional), Clay district, Monongalia County
Bluefield, Beaver Pond district, Mercer County
Bramwell, Rock district, Mercer County
Bridgeport, Bridgeport independent district, Harrison County
Bristol, Ten Mile district, Harrison County
Buckhannon, Buckhannon independent district, Upshur County
Burnsville (conditional), Burnsville Independent district, Braxton County.
Cairo, Grant district, Ritchie County
Cameron, Cameron district, Marshall County
Ceredo, Ceredo-Kenova independent district, Wayne County
Charleston, Charleston independent district, Kanawha County
Charleston (colored), Charleston independent district, Kanawha County
Charles Town, Charles Town district, Jefferson County
Chester, Chester independent district, Hancock County
Clarksburg, Clarksburg independent district, Harrison County
Clarksburg (colored), (conditional), Clarksburg independent district, Harrison County
Clay, Clay County high school, Clay County
Clendenin, Big Sandy district, Kanawha County
Cowen, Glade district, Webster County
Davis, Davis district, Tucker County
East Bank, Cabin Creek district, Kanawha County
Elkins, Elkins independent district, Randolph County
Fairmont, Fairmont independent district, Marion County
Fairmont, East Side (conditional), Union district, Marion County
Fairview, Paw Paw district, Marion County
Farmington, Lincoln district, Marion County
Follansbee, Cross Creek district, Brooke County
Gary (conditional), Adkin district, McDowell County
Gassaway, Otter district, Braxton County
Grafton, Grafton independent district, Taylor County
Greenbank, Greenbank district, Pocahontas County
Griffithsville, Duvall district, Lincoln County
Harpers Ferry, Harpers Ferry district, Jefferson County
Harrisville, Harrisville independent distict, Ritchie County
Hedgesville, Hedgesville district, Berkeley County
Hillsboro, Little Levels district, Pocahontas County
Hinton, Hinton independent district, Summers County
Huntington, Huntington independent district, Cabell County
Huntington (colored), Huntington independent district, Cabell Co.
Iaeger, Sandy River district, McDowell County

Jane Lew, Jane Lew independent district, Lewis County
Keyser, Keyser independent district, Mineral County
Kingwood, Kingwood district, Preston County
Littleton (conditional), Clay district, Wetzel County
Logan, Logan district, Logan County
Lost Creek, Grant district, Harrison County
Lumperport, Eagle district, Harrison County
Man (conditional), Triadelphia district, Logan County
Mannington, Mannington district, Marion County
Marlinton, Edray district, Pocahontas County
Martinsburg (conditional), Martinsburg independent district, Berkeley County
Masontown, Valley district, Preston County
Matewan (conditional), Magnolia district, Mingo County
Matoaka, Rock district, Mercer County
Middlebourne, County high school, Tyler County
Milton, Grant district, Cabell County
Moorefield (conditional), Moorefield district, Hardy County
Morgantown, Morgantown independent district, Monongalia County
Moundsville, Moundsville independent district, Marshall County
Mount Hope, Fayetteville district, Fayette County
Newburg, Lyon district, Preston County
New Cumberland, New Cumberland independent district, Hancock County
Newell (conditional), Grant district, Hancock County
New Martinsville, Magnolia district, Wetzel County
Northfork (conditional), Northfork district, McDowell County
Oak Park, Wheeling, Triadelphia district, Ohio County
Oak Hill, Fayetteville district, Fayette County
Parkersburg, Parkersburg independent district, Wood County
Parkersburg (colored), Parkersburg independent district, Wood County
Parsons, Blackford district, Tucker County
Paw Paw, Cacapon district, Morgan County
Pennsboro, Clay district, Ritchie County
Piedmont, Piedmont district, Mineral County
Pine Grove, Grant district, Wetzel County
Point Pleasant, Point Pleasant independent district, Mason County
Princeton (conditional), East River district, Mercer County
Pullman, Union district, Ritchie County
Ravenswood, Ravenswood independent district, Jackson County
Reader (conditional), Green district, Wetzel County
Richwood, Richwood independent district, Nicholas County
Ripley (conditional), Ripley independent district, Jackson County
Rivesville, Paw Paw district, Marion County
Romney, Romney district, Hampshire County
Ronceverte, Fort Spring district, Greenbrier County
Rowlesburg (conditional), Reno district, Preston County
Salem, Salem independent district, Harrison County
Sherrard, Union district, Marshall County
Shinnston, Clay district, Harrison County
Sistersville, Sistersville independent district, Tyler County
Smithfield (conditional), Grant district, Wetzel County
Spencer, Spencer independent district, Roane County
St. Albans, St. Albans independent district, Kanawha County

St. Marys, Washington district, Pleasants County
Summersville, County High School, Nicholas County
Sutton, Sutton independent district, Braxton County
Terra Alta, Portland district, Preston County
Thoburn (P. O. Monongah), Paw Paw district, Marion County
Thomas, Fairfax district, Tucker County
Tunnelton, Kingwood district, Preston County
Wadestown, Battelle district, Monongalia County
Warwood, Wheeling, Richland district, Ohio County
Webster Springs, Fork Lick district, Webster County
Weirton, Butler district, Hancock County
Welch, Browns Creek district, McDowell County
Wellsburg, Wellsburg independent district, Brooke County
West Milford, Union district, Harrison County
Weston, Weston independent district, Lewis County
West Union, West Union independent district, Doddridge County
Wheeling, Wheeling independent district, Ohio County
Wheeling (colored), Wheeling independent district, Ohio County
White Sulphur Spring (conditional), White Sulphur district, Greenbrier County
Williamson, Williamson independent district, Mingo County
Williamstown, Williams district, Wood County

HIGH SCHOOLS OF THE SECOND CLASS.

Barracksville, Fairmont district, Marion County
Beverly, Beverly district, Randolph County
Bruceton Mills (conditional), Grant district, Preston County
Buckhannon (colored), (conditional), Buckhannon independent district, Upshur County
Bunker Hill, Mill Creek district, Berkeley County
Chattaroy (conditional), Lee district, Mingo County
Dunleith, Ceredo district, Wayne County
Eccles, Trap Hill district, Raleigh County
Elk Garden, Elk district, Mineral County
Fairmont (colored) (conditional), Fairmont independent district, Marion County
Fayetteville, Fayetteville district, Fayette County
Flatwoods, Flatwoods independent district, Braxton County
Flemington, Flemington district, Taylor County
Franklin, Franklin district, Pendleton County
Gap Mills, Sweet Springs district, Monroe County
Kermit, Kermit district, Mingo County
Kimball (colored), Browns Creek district, McDowell County
Lewisburg, Lewisburg independent district, Greenbrier County
Macdonald (colored), Fayetteville, Fayette County
Mason, Mason independent district, Mason County
Montgomery, Kanawha district, Fayette County
Mullens (conditional), Slab Fork district, Wyoming County
Mullens, Slab Fork district, Wyoming County
New Haven, Graham district, Mason County
Northfork (colored), Northfork district, McDowell County
Peterstown, Red Sulphur district, Monroe County
Philippi, Philippi independent district, Barbour County
Renick, Falling Spring district, Greenbrier County

Sardis (conditional), Sardis district, Harrison County
Union (conditional), Union district, Monroe County
Wallace, Sardis district, Harrison County
Williamsburg, Williamsburg district, Greenbrier County
Wyatt, Eagle district, Harrison County

HIGH SCHOOLS OF THE THIRD CLASS

Aurora, Union district, Preston County
Bramwell (colored), Rock district, Mercer County
Burch, Lee district, Mingo County
Danville, Scott district, Boone County
Dunbar, Union district, Kanawha County
Elizabeth, Elizabeth district, Wirt County
Fellowsville, Reno district, Preston County
Frankford, Frankford district, Greenbrier County
Friendly, Union district, Tyler County
Gary (colored), Adkin district, McDowell County
Great Cacapon, Cacapon district, Morgan County
Greenville, Springfield district, Monroe County
Hamlin, Carroll district, Lincoln County
Hinton (colored), Greenbrier district, Summers County
Hundred, Church district, Wetzel County
Hurricane, Curry district, Putnam County
Huttonsville, Huttonsville district, Randolph County
Leetown, Middletown district, Jefferson County
Lenore, Hardee district, Mingo County
Montgomery (colored), Kanawha district, Fayette County
Morgantown (colored), Morgantown independent district, Monongalia County
Nemours, Beaver Pond district, Mercer County
Oceana, Oceana district, Wyoming County
Petersburg, Petersburg independent district, Grant County
Shiloh, Union district, Tyler County
Simpson, Court House district, Taylor County
Sincerity, Grant district, Wetzel County
Spanishburg, Rock district, Mercer County
Wardensville, Cacapon district, Hardy County
West Liberty, Liberty district, Ohio County

THE COLLEGE OF ARTS AND SCIENCES

THE FACULTY.

FRANK BUTLER TROTTER, LL.D., *President*

JAMES MORTON CALLAHAN, PH.D., *Dean and Professor of History and Political Science*

DANIEL BOARDMAN PURINTON, LL.D., *President and Professor of Philosophy, Emeritus*

JAMES SCOTT STEWART, B.S., *Professor of Mathematics, Emeritus*

ROBERT WILLIAM DOUTHAT, PH.D., *Professor of Latin, Emeritus*

ALEXANDER REID WHITEHILL, P.H.D., *Professor of Chemistry*

SAMUEL BOARDMAN BROWN, A.M., *Professor of Geology and Mineralogy*

ROBERT ALLEN ARMSTRONG, L.H.D., *Professor of the English Language and Literature*

ALFRED JARRETT HARE, A.M., *Professor of the Latin Language and Literature*

FREDERICK WILSON TRUSCOTT, PH.D., *Professor of Germanic Languages and Literature*

JASPER NEWTON DEAHL, PH.D., *Professor of Education*

JOHN HARRINGTON COX, A.M., *Professor of English Philology*

JOHN ARNDT EIESLAND, PH.D., *Professor of Mathematics*

ALBERT MOORE REESE. PH.D., *Professor of Zoology*

OLIVER PERRY CHITWOOD, PH.D., *Professor of History*

CHAUNCEY WILLIAM WAGGONER, PH.D., *Professor of Physics*

MADISON STATHERS, PH.D., *Professor of Romance Languages*

WAITMAN BARBE, LITT.D., *Professor of English*

ENOCH HOWARD VICKERS, A.M., *Professor of Economics and Sociology*

CHARLES EDWARD BISHOP, PH.D., *Professor of the Greek Language and Literature*

JOSEPH ELLIS HODGSON, PH.D., *Professor of Mathematics*

FRIEND EBENEZER CLARK, PH.D., *Professor of Chemistry*

CHARLES BENTON CANNADAY, A.M., *Professor of Latin*

CHARLES HENRY AMBLER, PH.D., *Professor of History*

LORIMER VICTOR CAVINS, A.M., *Professor of Education*

WILBUR JONES KAY, A.M., *Professor of Public Speaking*

CHARLES McKEE CANTRALL, A.M., *Professor of Philosophy and Psychology*

HARLAND HARVEY YORK, PH.D., *Professor of Botany*

SIMEON CONANT SMITH, A.M., *Professor of English*

DAVID DALE JOHNSON, A.M., *Professor of English*

ARLEIGH LEE DARBY, A.M., *Professor of French and Italian*

CARL ALFRED JACOBSON, PH.D., *Professor of Chemistry*

EARL HUDDLESTON, A.M., *Professor of Education*

LAWRENCE BENJAMIN HILL, A.M., *Professor of Education*

LONNA DENNIS ARNETT, PH.D., *Librarian and Instructor in Library Science*

FLOYD EARL CHIDESTER, PH.D., *Associate Professor of Zoology*

SAMUEL MORRIS, A.M., *Associate Professor of Chemistry*

HUBERT HILL, M.S., *Associate Professor of Chemistry*

GEORGE ROGERS BANCROFT, PH.D., *Associate Professor of Chemistry*

LOUIS AUGUST RUFENER, PH.D., *Associate Professor of Economics and Sociology*

JOHN LITTLEFIELD TILTON, PH.D., *Associate Professor of Geology*

EARL CLAUDIUS HAMILTON DAVIES, PH.D., *Associate Professor of Chemistry*

FRED A. MOLBY, PH.D., *Associate Professor of Physics*

BENJAMIN WALTER KING, A.M., *Assistant Professor of Economics*

CHESTER PENN HIGBY, PH.D., *Assistant Professor of History*

ANTONIO JOSEPH PROVOST, B.L., *Assistant Professor of Romance Languages*

EARL REED SCHEFFEL, PH.D., *Assistant Professor of Geology*

EDWARD SWITZER ALLEN, PH.D., *Assistant Professor of Mathematics*

HARVEY CARSON GRUMBINE, PH.D., *Assistant Professor of English*

CLAUDE CARL SPIKER, A.M., *Assistant Professor of Romance Languages*

ROBERT CLIFTON SPANGLER, A.M., *Assistant Professor of Botany*

REBECCA LUELLA POLLOCK, A.M., *Assistant Professor of English*

ALLEN EDGAR STEARN, PH.D., *Assistant Professor of Chemistry*

LILY BELL SEFTON, M.S., *Assistant Professor of Chemistry*

ENOCH FRANKLIN GEORGE, PH.D., *Assistant Professor of Physics*

PERLEY ISAAC READ, PH.D., *Assistant Professor of English*

MARIAN BRECK, M.S., *Assistant Professor of Education and Home Economics*

GEORGE EDGAR HARTMAN, A.B., *Assistant Professor of Sociology*

JOHN E. WINTER, PH.D., *Assistant Professor of Psychology*

EDGAR WILLIAMS, A.M., *Instructor in English*

CHARLES CHAPMAN SNOW, A.M., *Instructor in Chemistry*

CLARA LYTLE, A.B., *Instructor in English*

ELIZABETH DEE FROST, A.M., *Instructor in English*

MORRIS ABEL RAINES, A.M., *Instructor in Botany*

MARJA BROWN STEADMAN, A.B., *Instructor in Public Speaking*

EVA MYRTLE FLING, A.B., *Instructor in Botany*

ALLEN GUY MONTGOMERY, A.B., *Instructor in Mathematics*
CLAIRE FISHER, A.M., *Instructor in Mathematics*
ESTHER WAGNER STEARN, A.B., *Instructor in Chemistry*
MARION MARSH TORREY, A.M., *Instructor in Mathematics*
NELLIE PERREL AMMONS, A.B., *Laboratory Assistant in Botany*
CLEVELAND SYLVESTER SIMPKINS, A.B., *Instructor in Zoology*
ARTHUR EDWARD OWENS, B.S., *Instructor in Chemistry*
MENDOR THOMAS BRUNETTI, A.M., *Instructor in French*
GERTRUDE MARTIN, A.B., *Instructor in German*
HELEN PURINTON PETTIGREW, A.B., *Instructor in English*

HELEN WIESTLING, A.B., *Assistant in Zoology*
GREEK SAYRE, A.B., *Assistant in History and English*
CHARLES LESTER LAZZELLE, A.B., *Assistant in Chemistry*
GEORGE ANDREW FEDERER, JR., A.B., *Assistant in Chemistry*
ELEANOR MONTGOMERY JOHNSON, B.S., *Assistant in Chemistry*
HELEN VIRGINIA BARNES, A.B., *Assistant in Chemistry*
ORFA REX FORD, B.S., *Assistant in Physics*

CREDE HAYMOND CONLEY, *Student Assistant in Chemistry*
BENJAMIN PREISER, *Student Assistant in Chemistry*
CHARLES THOMPSON NEFF, *Student Assistant in Chemistry*
CHARLES RUSSELL BICKEL, *Student Assistant in Chemistry*
RUFUS GLENN LAZZELLE, *Student Assistant in Physics*
PAUL CECIL BIBBEE, *Student Assistant in Zoology*
RUSSELL SMITH COFFINDAFFER, *Student Assistant in Zoology*
ARTHUR THOMAS HOPWOOD, *Student Assistant in Zoology*
HOWARD JESS WADSWORTH, *Student Assistant in Philosophy*

ENTRANCE REQUIREMENTS.

For admission to the College of Arts and Sciences the student must have credit for fifteen units of secondary school work, i. e., the work of a standard four-year high school.[1]

A. The following groups are required:
   (1) Four units of English.
   (2) Three units in one other subject.
   (3) Two units in a third subject.
   (4) Two units in a fourth subject.
   (5) Four units elective.

B. Work in the following subjects not to exceed the number of units placed after each subject will be accepted:

English	4 units	Science[3]	
		Physics	1 unit
Foreign languages[2]		Chemistry	1 unit
Latin	4 units	Biology	1 unit
Greek	3 units	Botany	1 unit
French	3 units	Geology	1 unit
German	3 units	Zoology	1 unit
Spanish	2 units	General Science	1 unit
Italian	2 units	Physical geography	½ unit
		Physiology	½ unit
Mathematics		Hygiene and sanitation	½ unit
Algebra	1½ units		
Plane geometry	1 unit	Vocational subjects (not to exceed four units in all.)	
Solid geometry	½ unit	Agriculture	3 units
Trigonometry	½ unit	Household arts	3 units
		Manual training	3 units
History and Economics		Bookkeeping or bookkeeping and commercial arithmetic combined	2 units
History	3 units		
Civics	1 unit		
Elementary economics and sociology	1 unit	Shorthand and typewriting combined	2 units
		Commercial geography	½ unit
Education	2 units	Commercial law	½ unit
Drawing		Music:—violin, organ or piano[4]	2 units
Free-hand drawing	1 unit		
Mechanical drawing	1 unit		

[1] These admission requirements are effective from May 1, 1919, but graduates from high schools in 1919, 1920, or 1921 may, if they prefer, enter under the requirements as stated in the University catalogue for 1918-19.

[2] Not less than two units of one foreign language will be accepted for entrance.

[3] A group of two units in science may be made by combining one unit each of physics and chemistry or one unit each of any two of the following: biology, botany, zoology, geology. A group of three units in science may be made by combining one unit each of any three of the following: physics, chemistry, biology, botany, zoology, geology.

[4] For conditions governing credit for music see page 59 of the General Announcements.

REQUIREMENTS FOR DEGREES.

BACCALAUREATE DEGREES.

Only one baccalaureate degree is regularly conferred in the College of Arts and Sciences, that of Bachelor of Arts.

The degree of Bachelor of Science is conferred only as a first degree upon candidates who are pursuing either the combined science and engineering course, the combined science and agricultural course, or the combined scientific and medical course. See page 9.

Amount of Work Required.

The "semester hour" is the standard for computing the amount of work required for graduation in the curricula leading to these degrees. The "hour" represents the amount of work done in one semester (eighteen weeks) in one recitation hour with two preparation hours a week. No student is permitted to register for less than fourteen hours or more than seventeen hours of work in any one semester.

The baccalaureate degree in the College of Arts and Sciences is conferred upon any student who complies with the general regulations of the University concerning degrees as announced on page 40 of the University Catalogue, satisfies all entrance requirements, and secures credit for one hundred and twenty-eight semester hours selected in accordance with the following provisions.

The Major Subject.

At the beginning of the sophomore year the student must select as his major study one of the following subjects:

English	History	Botany
Public Speaking	Political Science	Zoology
Greek	Economics	Entomology
Latin	Sociology	Geology
German	Physics	Education
French	Chemistry	Philosophy
Italian	Mathematics	Home Economics
Spanish		

The head of the department to which this major subject belongs becomes the student's class officer. The major requirement is 30 hours, which may be either 30 hours in the one major subject or 20 to 25 hours in that subject with 5 to 10 hours in another subject closely related. The class officer may designate the courses to be taken in the major and the allied subjects and may require at least 25 hours in the one subject. Additional courses in the major subject

or in the allied subject may of course be taken as elective if the student so desires. The maximum amount of credit allowed in any one subject is 36 hours.

Special Requirements.

For Students Who Desire The Degree of A.B.

During his course each student must take courses in each of eight groups of subjects as shown below:

1. English composition ,English 1 and 2)_____ 6 Hrs.
   English literature (English 26 and 27)_____ 4 "
2. One foreign language_____20 "
3. History and political science, or economics and sociology _____ 8 Hrs.
4. Physics, chemistry, or mathematics; any one 8 "
5. Botany, zoology, geology or entomology; any one _____ 8 "
6. Education, philosophy, public speaking; any one _____ 8 "
7. Military science (when required)_____ 4 "
8. Electives; not less than_____32 "

   NOTE.—At least five hours must be taken in each subject offered as an elective, except that not more than eight hours of credit in isolated courses of less than five hours credit value each, elected with the approval of the class officer, may be offered.

Students who do not offer two units of language for entrance must do twenty-six hours of one language in college instead of twenty. Fewer than ten hours of one language will not be counted for credit unless the student has offered two units of the same language for entrance.

For Students Who Desire to Take a Combined Course in Two Colleges in Six Years.

Students who desire to secure the B.S. degree and then take a bachelor's degree in the college of Engineering may complete the work for both degrees in six years or less by following the curriculum as outlined in the Announcements of the College of Engineering. Those who desire to secure the B.S. and B.S.Agr. degrees in a similar time must follow the curriculum outlined in the Announcements of the College of Agriculture.

Students who desire to secure the B.S. degree with a view to proceeding to the study of medicine and who announce this intention on entering the freshman class will be excused from the foregoing general requirements and may secure the degree of B.S. by taking sixty-four hours of work in the College of Arts and Sciences and the course in the School of Medicine. For detailed curriculum see Announcements in the School of Medicine.

Courses in Special Fields of Work.

Journalism. The work in journalism is at present organized as part of the department of English. Students who desire to devote special attention to this subject, because they desire either to make it the nucleus of a general education, or to include it as part of their preparation for business or industrial affairs, or to take up some phase of newspaper or editorial work as a career, should consult the head of the department of English and the instructor in charge of the courses in journalism in regard to a program of studies adapted to their needs. Such a program would ordinarily include, in addition to the work in journalism proper, other coures in Eglish literature and composition, courses in modern history and economics and the usual requirements in science and foreign language. Students who desire to specialize in journalism should select English as their major subject at the beginning of the sophomore year.

Business Administration. The University does not as yet offer a special course in business administration. Students who are particularly interested in this field and who wish to prepare themselves for specialization in it should consult with the head of the department of economics in planning their program of studies. The freshmen work of such students should ordinarily include the courses in English and American economic history.

Elective Courses.

The remaining work necessary to make up the total of one hundred and twenty-eight hours required of candidates for the bachelor's degree, may be selected from any of the courses offered in the College of Arts and Sciences. Work not to exceed fifteen hours in the College of Law, the College of Agriculture, the College of Engineering of the School of Music may be included in the list of elective credits offered by students in the College of Arts and Sciences. The total number of hours elected from other colleges shall not, however, exceed twenty-four in all. For detailed statements of the courses open to such election in each college, see the announcements of that college.

Classification of Students.

To be classified as a conditioned freshman in the College of Arts and Sciences a student must have credit for at least thirteen units of entrance requirements; to be classified as a regular freshman he must have fulfilled all entrance requirements and have credit for twenty-five hours of college work; as a junior, fifty-eight hours; as a senior, ninety-two hours.

GRADUATE DEGREES.

There are two advanced degrees conferred in the College of Arts and Sciences: Master of Arts and Master of Science. For the conditions upon which these degrees are granted see page 41 of the catalogue.

EXTENSION COURSES.

As a part of the University Extension Service The College of Arts and Sciences since the year 1916 has conducted at several centers in various parts of the State extension courses for which regular college credit has been given. The extension instructors have had headquarters at Moundsville, Parkersburg, and Wheeling. The work given in the extension courses corresponds in every particular, as to class requirements and credit, with that given in similar courses on the campus. Similar extension courses will be provided in other parts of the State as the resources of the University will permit.

The giving of extension courses is subject to the following conditions: (1) Courses will not be organized at any place unless the demand is sufficient to justify it. (2) Courses offered by resident instructors will be given in Morgantown and in nearby places easy of access, generally on Friday afternoons and Saturdays. (3) Regular extension instructors will offer courses only in such places as can be reached from their headquarters.

The extension service has seventy-five reels of picture film which it distributes to the schools of the state under certain conditions.

This service will be extended as soon as other films can be secured.

COURSES OF INSTRUCTION.

In the following announcements each course described counts for the number of hours in parentheses after the name of the course The semester during which the course is given, the hour, the name of the instructor, and class room are usually stated at the end of the announcement of each course. A complete statement of these details is to be found in the Schedules of Courses published by each college at the beginning of each semester. For convenience it is customary to designate the courses of study by the name of the department and the number of the particular course. Thus the course in psychology is known as "Philosophy 1"; the course in plane trigonometry is known as "Mathematics 4"; the course in electrical measurements is known as "Physics 10"; etc. The abbrevations used are W., Woodburn Hall; S., Science Hall; M., Martin Hall; M. H., Mechanical Hall; C., Commencement Hall; O., Oglebay Hall; E., Experiment Station Building; L., Library; H., Horticulture, Building; M. B., Medical Building.

Courses marked (G) are primarily for graduate students. Those marked (†) are open to graduates.

AGRICULTURAL EDUCATION.

16. High School Agriculture (3 Hrs.)
Second semester; T. Th., 9:00; T., 2:00; Professor WINKLER.

35. Methods in Agricultural Extension (2 Hrs.)
Second semester; T. Th., 11:00.

Credit will also be given in the College of Arts and Sciences for Course 1 in the history of Agricultural education offered in the College of Agriculture. For detailed announcements of all these courses see the announcements of that college.

AGRONOMY.

Credit will be given in the College of Arts and Sciences for Courses 2 and 21 in agronomy in the College of Agriculture. See the announcements of that college.

ANIMAL INDUSTRY.

Credit will be given in the College of Arts and Sciences for courses 40, 42, 43, 45 and 46 in animal husbandry, and Course 21 in dairy husbandry in the College of Agriculture. See the announcements of that college.

BOTANY.

Professor YORK, Assistant Professor SPANGLER, Miss FLING, Miss AMMONS and Mr. RAINES.

The courses in botany are designed to meet the needs of four classes of students:

The courses in botany are designed to meet the needs of four classes of students:

(1) Those who wish to learn something about the nature of plants and their relation to every day life. Courses 20, 21, 24, 25, 26, and 27 are recommended.

(2) Those who plan to return to the farm or become closely affiliated with some phase of agriculture. Courses 20 21, 12, 14, 15, 24, 29 and Bacteriology 10 are recommended.

(3) Those who intend to teach botany or agriculture in secondary schools. Courses 20, 21, 24, 5, 26, 27, 28, and Bacteriology 10 are recommended.

(4) Those who wish to engage later in graduate study preparatory to the pursuit of investigational work in the U. S. Department of Agriculture or in experiment stations, or to become college teachers. Courses 20, 21, 22, 23, 13, 14, 15, 16, 26, 27, 5, and Bacteriology 10 are recommended.

NOTE: For description of botanical laboratory see catalogue, page 25.

1. General Botany. (4 Hrs.) Plant Biology. A general cultural course which also affords a preliminary training for those who wish to take up further work in pure and applied botany. A general survey of the plant kingdom. The plants studied serve as a basis for the study of the general biological principles fundamentally related to human welfare. Two lecture periods and two three-hour laboratory periods each week.

First semester; Lecture and laboratory hours as announced in the semester schedules; Professor YORK and staff; O.

2. General Botany. (4 Hrs.) Plant Biology. A continuation of Course 1. A collection of fifty plants is required. Lecture and laboratory hours and sections as in Course 1.

Second semester; Professor YORK and staff; O.

NOTE: Courses 1 and 2 are prerequisite for all other courses in botany except Courses 24 and 25 and Bacteriology 10.

20. Physiological Anatomy. (4 Hrs.) A study of the place and mode of origin, minute structure and function of the tissues in flowering plants; methods in microtechnique. Two lecture periods and two three-hour laboratory periods weekly.

First semester; M. F., 10:00; Th. F., 2:00; Professor YORK , A.

21. Physiological Anatomy. (4 Hrs.) Continuation of Course 20.

Second semester; M F., 10:00; Th. F., 2:00; Professor YORK; A.

12. Plant Physiology. (5 Hrs.) The fundamental principles underlying the nturition, growth, and responses of the plant and the relation of the plant to its environment, studied from the point of view of plant control and plant production. Prerequisite: Course 20. Three lecture periods and two three-hour laboratory periods each week.

First semester; M. W. F., 11:00; M. W., 2:00; Mr. RAINES; A.

16. Advanced Physiology. (2 Hrs.) A study of the response of the plant of external stimuli. Prerequisite: Course 12. Six hours' work in the laboratory each week.

Second semester; hours to be arranged; Mr. RAINES; A.

14. Plant Pathology. (5 Hrs.) The symptoms of disease in plants; identification of bacteria and fungi which cause disease in our most common native and introduced plants; their manner of infection and their effects on their hosts; methods of prevention and control. Prerequisite: Course 12. Two lecture periods and two three-hour laboratory periods each week.

Second semester; M. W., 11:00; M. W., 2:00; Professor YORK; A.

15. Plant Pathology. (5 Hrs.) Diseases of shade, ornamental, and forest trees; methods of culture and inoculation employed in the laboratory in connection with the study of plant diseases. Prerequisite: Course 14. Two lecture periods and nine hours in the laboratory each week.

First semester; lectures T. Th., 4:00; laboratory hours to be arranged; Professor YORK and staff.

22. Morphology and Phylogeny. (4 Hrs.) Morphology of the thalophytes and bryophytes.

First semester; lectures, W. S., 8:00; laboratory hours to be arranged; Assistant Professor SPANGLER.

23. Morphology and Phylogeny. (4 Hrs.) A continuation of Course 22. Study of Pteridophytes and spermatophytes.

Second semester; lectures, W. S., 8:00; laboratory hours to be arranged; Assistant Professor SPANGLER; A.

24. Trees. (2 Hrs.) The more common native and introduced trees of West Virginia; their structure and economic value; the making of seed-beds; transplant beds and forest tree plantings. The laboratory work is done largely in the field.

Second semester; lectures, W., 8:00; laboratory hours to be arranged; Professor YORK.

5. Systematic Botany. (3 Hrs.) A study of ferns and seed plants primarily from the standpoint of identification and classification with the aid of a manual. Both wild plants of this region and those of economic importance are considered. A collection is required. After April 1 most of the class work is done in the field.

Second semester; M. W. F., 4:00; Professor YORK and Miss FLING.

Bacteriology.

10. Bacteriology. (3 Hrs.) The nature of bacteria; what they are, how they live; methods of growing and studying them. Two lecture periods and one three-hour laboratory period each week.

First and second semesters; lectures, T. Th., 11:00; laboratory, T or Th., 2:00; Assistant Professor SPANGLER; A.

Graduate Courses.

The following courses are designed for graduates and approved seniors. Students desiring to elect any of these courses should first consult with the head of the department of botany.

25. (G.) Fungi. (3-5 Hrs.) Methods of culture, isolation, identification and inoculation of fungi.

First semester; lectures T. Th., 11:00; laboratory hours to be arranged; Professor YORK and staff.

26. (G.) Fungi. (3-5 Hrs.) A continuation of course 25.

Second semester; lectures, T. Th., 11:00; laboratory hours to be arranged; Professor YORK and staff.

27. (G.) Plant Growth. (3-5 Hrs.) Special work in plant growth and reproduction.

First semester; lectures M. F., 4:00; laboratory hours to be arranged; Professor YORK and staff.

28. (G.) Plant Growth. (3-5 Hrs.) A continuation of course 27.

Second semester; lectures, M. F., 4:00; laboratory hours to be arranged; Professor YORK and staff.

29. (G.) Plant Anatomy. (3-5 Hrs.) Special work in the anatomy of seed plants.

First semester; W. S., laboratory hours to be arranged; Professor YORK and staff.

30. (G.) Plant Anatomy. (3-5 Hrs.) A continuation of 29.

Second semester; W. S., laboratory hours to be arranged; Professor YORK and staff.

CHEMISTRY.

Professors CLARK, WHITEHILL, JACOBSON, Associate Professors Hubert HILL, Samuel MORRIS, BANCROFT and DAVIES, Assistant Professors STEARN[1] and SEFTON, Mr. SNOW, Mrs. STEARN[1] and Mr. OWENS.

NOTE: Courses starred are required of major students.

General Chemistry.

***1. Inorganic Chemistry.** (4 Hrs.) Primarily for freshmen in all the colleges. Prerequisite to all other courses in chemistry. Three recitation periods and two two-hour laboratory periods weekly.

Section A, for students who offer chemistry for entrance credit.

Section B, for students who do not offer chemistry for entrance credit.

Section C, for students who offer neither chemistry nor high-school mathematics for entrance credit.

First semester; hours as announced in the semester schedule; Professor CLARK and staff.

***2. Inorganic Chemistry.** (4 Hrs.) A continuation of Course 1. Sections and recitation hours as in Course 1.

Second semester; hours as announced in the semester schedule; Professor CLARK and staff.

NOTE: One unit of algebra and one unit of plane geometry are prerequisite for all courses in chemistry except Courses 1 and 2.

Qualitative and Quantitative Analysis.

***5. Qualitative Analysis and Inorganic Preparations.** (4 Hrs.) Required of students whose major is chemistry and of students in chemical engineering. Three three-hour laboratory periods weekly with occasional recitations and assignments in addition.

First semester; M. W. F., 2:00; Assistant Professor HILL.

4. Quantitative Analysis. (2 Hrs.) Primarily for engineering students. Two three-hour laboratory periods weekly.

First semester; hours as shown in semester schedule; Associate Professors Hubert HILL and DAVIES.

***6. Quantitative Analysis.** (4 or 5 Hrs.) Required of students whose major is chemistry, and of students in chemical and mining engineering. Students registered for the coal mining option will take only four hours' credit. Prerequisite course 5. Four or five three-hour laboratory periods weekly.

Second semester; 2:00; Associate Professor HUBERT HILL.

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[1] Resigned January 1, 1921.

*7. **Quantitative Analysis.** (4 Hrs.) A continuation of Course 6. Required of students whose major is chemistry and of students in chemical engineering. Prerequisites: Physics 1, 2, 3, and 4; Mathematics 3 and 4. Four three-hour laboratory periods weekly.

First semester; M. T. Th. F., 2:00; Professor JACOBSON.

8. **Quantitative Analysis.** (5 Hrs.) An advanced course for major students. Prerequisite Course 7. Five three-hour laboratory periods weekly.

Second semester; 2:00; Professor JACOBSON.

25. **Quantitative Analysis.** (4 Hrs.) A course dealing exclusively with the analysis of foods. Prerequisite Courses 6 and 9.

Second semester; lectures, T. Th., 9:00; laboratory, T. Th., 2 to 5; Mr. SNOW.

18. **Qualitative and Quantitative Analysis.** (5 Hrs.) For students in the premedical and pharmacy courses. Five three-hour laboratory periods each week.

First semester; 9:00; Assistant Professor HILL and Mr. SNOW..

11.† **Quantitative Analysis.** (2 Hrs.) Open to seniors and graduate students. The course includes practice in the analysis of iron and steel, iron ores, limestone, sand, clay and other materials usually brought to the laboratory of an iron and steel works.

First semester; T. Th., 2:00; Professor WHITEHILL; 21 S.

12.† **Quantitative Analysis.** (2 Hrs.) Open to seniors and graduate students. Continuation of Course 11.

Second semester; T. Th., 2:00; Professor WHITEHILL. 21 S.

13.† **Quanitative Analysis.** (2 Hrs.) Prerequisites: Chemistry 9, 20 and 21. Open only to seniors and graduate students. Special topics in advanced analytical chemistry.

Second semester; T. Th., 8:00-10:00; Assistant Professor MORRIS.

14.† **Organic Qualitative Analysis.** (2 Hrs.) The applications of analytical principles to organic compounds. Open only to seniors and graduate students. Prerequisite: Course 9. Two three-hour laboratory periods weekly.

Second semester; M. F., 2:00-5:00; Professor JACOBSON.

23.† **Organic Quantitative Analysis.** (2 Hrs.) A laboratory course for both proximate and ultimate analysis of carbon compounds. Open only to seniors and graduate students. Prerequisite or parallel course: Chemistry 20. Two three-hour laboratory periods weekly.

Second semester; W. S., 8:00-11:00; Associate Professor BANCROFT.

Organic Chemistry.

3. Organic Chemistry. (2 Hrs.) An introductory course. Prerequisite: Chemistry 1. Experimental lectures and recitations.

Second semester; T. Th., 9:00; Professor WHITEHILL.

16. Organic Chemistry. (3 Hrs.) For students in agriculture and home economics. Two recitations and one three-hour laboratory period weekly. Prerequisite: Chemistry 2.

First semester; T. Th., 9:00; W. or F., 2:00; Associate Professor BANCROFT.

9. Organic Chemistry. (5 Hrs.) Required of students with major in chemistry, of students in chemical and in mining engineering, and of premedical and pharmacy students. Three lectures and two three-hour laboratory periods weekly. Prerequisite: Course 7; for medical students, course 18.

First semester, (for major students and for engineering students); M. W. F., 11:00; T. Th., 2:00; Professor CLARK and Associate Professor BANCROFT.

Second semester, (for pre-medical and pharmacy students); M. W. F., 11:00; T. Th., 2:00; Professor CLARK and Associate Professor BANCROFT.

20.† Organic Chemistry. (5 Hrs.) Required of major students. Open for graduate students also. Two lectures and three three-hour laboratory periods weekly. Prerequisite: Chemistry 9.

Second semester; T. Th., 11:00; M. W. F., 2:00; Professor CLARK.

24. (G.) Dyes and Dye Intermediates. (2 or 4 Hrs.) Open only to graduate students. Prerequisite: Chemistry 20.

First semester; T. Th., 9:00; laboratory T. Th., 2:00-5:00; Professor CLARK.

25. (G.) Dyes and Dye Intermediates. (2 or 4 Hrs.) Open only to graduate students. Prerequisite: Chemistry 24

Second semester; lectures, 9:00; laboratory T. Th., 2:00-5:00; Professor CLARK.

Industrial Chemistry.

19.† Industrial Inorganic Chemistry. (3 or 4 Hrs.) Prerequisites: Chemistry 7 and 9. Open to seniors and graduate students.

First semester; for major students in chemistry, 9:00; for chemical engineers, W. F., 9:00; T. Th., 2:00; Professor CLARK and Professor HODGE.

22.† Industrial Organic Chemistry. (3 or 4 Hrs.) Prerequisite: Chemistry 19. Open to seniors and graduate students.

Second semester; M. W. F., 9:00; Professor CLARK and Professor HODGE.

Physical Chemistry.

24.† Physical Chemistry. (5 Hrs.) Required of chemistry and chemical engineering students. Open to graduate students. Prerequisites: Chemistry 7 and Physics 4. Three lectures and two three-hour laboratory periods weekly.

Second semester; M. W. F., 9:00; T. Th., 2:00; Associate Professor DAVIES.

26.† The Chemistry of Colloids. (2 Hrs.) Open to juniors, seniors and graduate students. Specially recommended to medical students. Prerequisites: Course 9 and Course 18 or 6.

First semester; T. Th., 8:00; Associate Professor DAVIES.

Research.

27. (G.) Research. (Credits as arranged) Primarily for graduate students.

First semester; hours to be arranged; Professor CLARK and Professor JACOBSON.

28. (G.) Research. (Credits as arranged). Primarily for graduate students.

Second semester; hours to be arranged; Professor CLARK and Professor JACOBSON.

15. Special Work. Assignments not covered by the courses above outlined. Credits and hours to be arranged by individual students.

29. Journal Meeting and Seminar. (1 Hr.) Open to seniors and graduate students.

First semester; 7:00 p. m., Professor CLARK and staff.

30. Journal Meeting and Seminar. (1 Hr.) Prerequisite: Chemistry 29. Open to seniors and graduate students.

Second semester; 7:00 p. m., Professor CLARK and staff.

31.† History of Chemistry. (2 Hrs.) Open to juniors, seniors and graduate students.

Second semester; T. Th., 9:00; Associate Professor HILL.

NOTE: A breakage deposit is required of all students taking laboratory courses.

ECONOMICS AND SOCIOLOGY.

Professor VICKERS, Associate Professor RUFENER, Assistant Professor KING, and Assistant Professor HARTMAN.

Instruction in this department is designed to meet three special needs of students. (1) Training for individual efficiency in getting a living under present economic and social conditions; (2) training which will enable students to understand the existing economic and social order—whence arise many urgent problems of the time—and intelligently to discharge their duties as citizens; (3) training to prepare those so electing to continue advanced study and specialization in economics and sociology.

Economics 1 and 2 will be helpful to students in all other courses in the department, and are specified prerequisites for entrance to most of these courses. They should therefore be taken first by all students who contemplate further work in economics and sociology. Courses in sociology should be deferred till the sophomore year. Sociology 1 is a prerequisite for all other courses in sociology except 6, 8, 10.

Any student who elects economics or sociology as major subject must take at least 25 hours of work in this department, at least 6 hours in history and politics, and at least 4 hours in either zoology or botany in order to qualify as a candidate for a degree. In anticipation of such election, freshmen are urged as far as practicable to meet requirements in English, foreign language and science groups during their freshman year.

Economics.

1. **Principles of Economics.** (3 Hrs.) A general course on fundamental principles governing consumption, production, distribution and exchange of wealth. Designed to be followed by Economics 2. For sophomores; freshmen by consent.

First semester; first section, M. W. F., 8:00; second section, M. W. F., 9:00; third section, M. W. F., 10:00; fourth section, M. W. F., 11:00; Professor VICKERS, 42 W., and Associate Professor RUFENER, 44 W.

2. **Principles of Economics.** (3 Hrs.) Continuation of preceding course. Prerequisite: Economics 1.

Second semester; first section, M. W. F., 8:00; second section, M. W. F., 9:00; third section; M. W. F., 10:00; fourth section, M. W. F, 11:00; Professor VICKERS, 42 W., Associate Professor RUFENER. 44 W.

115. **Principles of Economics.** (3 Hrs.) A general course on fundamental principles which govern the consumption, production, distribution and exchange of wealth. For students in the College of Engineering.

First semester; first section, T. Th. S., 8:00; Associate Professor RUFENER, 44 W.; second section, M. W. F., 11:00; Assistant Professor KING, 44 W.

3. **History of Economic Thought.** (2 Hrs.) For juniors and seniors; graduates by consent. Development of economic theories from antiquity to the present time. Causes, nature and effects of changes; relation to economic and political institutions. Prerequisites: Economics 1 and 2.

First semester; T. Th., 9:00; Professor Vickers, 42 W.

14.† **Distribution of Wealth.** (2 Hrs.) For seniors and graduates. The actual apportionment of wealth among the several classes of society; effects of competition, monopoly, combinations of capital and labor, government regulation. Prerequisites: Economics 1, 2 and 3.

First semester; T. Th., 8:00; Professor Vickers, 42 W.

4.† **Relations of Government to Economic Enterprise.** (2 Hrs.) For seniors and graduates. Functions of government, both state and municipal, in relation to economic enterprises; principles and expediency of government regulation and of government ownership; methods and results of typical enterprises. Prerequisite: Consent of instructor.

Second semester; T. Th., 9:00; Professor Vickers, 42 W.

5. **Money, Credit and Banking.** (3 Hrs.) For juniors and seniors. Nature and functions of money; nature and uses of credit; functions of banks and principles of banking as revealed in the banking systems of leading countries. Special reference to the United States. Prerequisite: Economics 1 and 2.

First semester; M. W. F., 9:00; Professor Vickers, 42 W.

105. **Money, Credit and Banking.** (2 Hrs.) For students in the College of Engineering. Nature and functions of money, credit and securities; principles of banking; financing of public service and industrial corporations, with special reference to egineering and construction work. Prerequisite: Economics 115.

Second semester; first section, T. Th., 8:00; Assistant Professor King; second section, T. Th., 11:00; Associate Professor Rufener.

6. **Public Finance.** (4 Hrs.) For juniors and seniors. Principles governing expenditures of modern governments; sources of revenue; uses of public credit; principles and methods of taxation and of financial administration as revealed in fiscal systems of leading countries. Prerequisite: Economics 1 and 2.

Second semester; M. T. Th. F., 10:00; Professor Vickers, 42 W.

7. **Transportation.** (3 Hrs.) For juniors and seniors. Nature, history and problems of transportation, especially in the United States. Prerequisite: Economics 1 and 2.

Second semester; M. W. F., 8:00; Assistant Professor King, 44 W.

8. Transportation. (3 Hrs.) For juniors and seniors. Water transportation, inland and ocean, with special reference to the United States. Prerequisite: Economics 1 and 2.

Second semester; M. W. F., 8:00; Assistant Professor KING, 44 W.

10. International Trade Policies. (3 Hrs.) For juniors and seniors. Nature, advantages and relative importance of trade between nations; agencies, facilities, restrictions; protective and revenue tariffs in theory and in practice of leading nations. Special reference to the United States. Prerequisite: Economics 1 and 2.

First semester; T. Th., 11:00; a third hour to be arranged; Professor VICKERS, 42 W.

11. Labor Problems. (3 Hrs.) For juniors and seniors. Origin and nature, methods of amelioration and reform; woman and child labor, sweating, immigration, unemployment, labor legislation, arbitration; cooperation, profit-sharing, and insurance. Prerequisite: Economics 1 and 2.

Second semester; M. W. F., 11:00; Professor VICKERS, 42 W.

17. Business Organization. (2 Hrs.) For juniors and seniors. Forms of business organization and their development; individual enterprise, partnership, corporation, combination; resulting problems and requisite public policy. Prerequisite: Economics 1 and 2.

First semester; T. Th., 10:00; Associate Professor RUFENER, 45 W.

20. Corporation Finance. (2 Hrs.) For juniors and seniors. Methods of financing business corporations; classes of securities; methods of promotion, underwriting, reorganization, resulting problems of business and of public policy. Prerequisite: Economics 1 and 2.

Second semester; T. Th., 8:00; Associate Professor RUFENER, 45 W.

21. Investment and Speculation. (2 Hrs.) For juniors and seniors. Investments suitable for various classes of investors; real estate, mortgages, bonds, stocks; stock exchanges; factors affecting market price of securities. Open to graduate students with consent of instructor. Prerquisites: Economics 1 and 2, and 17 or 20. (Omitted 1921-22.)

Second semester; T. Th, 8:00; Associate Professor RUFENER, 45 W.

22. Insurance. (2 Hrs.) Insurance in its fundamental aspects; history; principles and their main applications; life, casualty, health, fire, marine and other hazards. (Omitted 1921-22.)

Second semester; T. Th., 11:00; Assistant Professor KING, 44 W.

23. **Exchange.** (2 Hrs.) A study of domestic and foreign exchange with special emphasis on the latter; principles involved; methods of payment; rates; gold shipments effect of investment; borrowing, speculation and arbitrage.

Second semester; T. Th., 11:00; Assistant Professor King, 44 W.

9. **History of Commerce.** (3 Hrs.) For freshmen and sophomores. Nature and methods of trade among the ancients. Results of maritime discoveries, change of routes, international treaties, inventions, government regulation and trade promoting agencies.

First semester; M. W. F., 10:00; Assistant Professor King, 44 W.

24. **Materials of Commerce.** (3 Hrs.) For freshmen and sophomores. A study of agricultural, animal, mineral and manufactured products; their distribution and markets.

Second semester; M. W. F., 8:00; Associate Professor Rufener.

13. **Natural Resources of the United States.** (3 Hrs.) For freshmen and sophomores. The exploitation and conservation of natural resources; soils, minerals, forests, marine products, relation to distribution and activities of the people and to national development.

Second semester; M. W. F., 8:00; Associate Professor Rufener.

25. **Elements of Accounting.** (3 Hrs.) For freshmen and sophomores. An introduction to accounting; construction and interpretation of financial statments; analysis of financial transactions; distinctions between capital and income; value and depreciation; determination of profits; handling of reserves. Prerequisite: double-entry bookkeeping.

First semester; T. Th., 9:00; W., 2:00-5:00; Assistant Professor King, 44 W.

26. **Advanced Accounting.** (3 Hrs.) Designed to follow Economics 25. A more intensive study of accounting theory, with its practical application; depreciation, reserve and surplus accounts; manufacturng accounts. Prerequisite: Economics 25.

Second semester; T. Th., 10:00; Assistant Professor King, 44 W.

27. **Industrial Accounting.** (3 Hrs.) The principles of cost accounting as applied to the various types of industrial enterprises, including methods of burden application and the place of interest in costs.

First semester; T. Th., 10:00; W., 2:00-5:00; Assistant Professor King, 40 W.

125. **Cost Accounting.** (2 Hrs.) For seniors in the College of Engineering. A study of the principles and methods of cost accounting with special reference to the point of view of the engineer.

Second semester; first section, M., 10:00; W. 2:00-5:00; second section, F., 10:00; M. 2:00-5:00; Assistant Professor King, 44 W.

Sociology.

NOTE: Courses in sociology are not ordinarily open to freshmen.

1. Elements of Sociology. (3 Hrs.) For sophomores and juniors. Not open to freshmen. A general outline of sociological doctrines with special emphasis on the origin and development of social institutions.

First semester; M. W. F. 10:00; Assistant Professor HARTMAN.

11. Applied Sociology. (3 Hrs.) For sophomores and juniors. Continuation of preceding course with emphasis on the application of the laws and principles of social organization and development to problems of social improvement. Prerequisite: Sociology 1.

Second semester; M. W. F., 10:00; Assistant Professor HARTMAN.

2. Social Organization. (3 Hrs.) For juniors and seniors. Laws and principles underlying individual and social behavior; scope and methods of social control. Prerequisite: Sociology 1 and 11.

First semester; M. W. F., 8:00; Assistant Professor HARTMAN.

3. The Family. (3 Hrs.) For sophomores and juniors. Sex in society; origin, functions, and evolution of the family as an institution; problems connected with divorce, desertion, and family rehabilitation. Prerequisite: Sociology 1.

Second semester; M. W. F., 9:00; Assistant Professor HARTMAN.

4. Theories of Social Progress. (3 Hrs.) For juniors and seniors. A critical and constructive study of the leading theories of social progress. Prerequisite: Sociology 1 and 11.

Second semester; M. W. F., 8:00; Assistant Professor HARTMAN.

6. Statistics. (3 Hrs.) The principles of statistics as a method of recording and presenting social and economic facts, with application to concrete problems. Prerequisite: Economics 1, 2. (Omitted 1921-22.)

First semester; T. Th., 11:00; two-hour laboratory period to be arranged. ——— ———.

7.† Social Investigation. (3 Hrs.) For seniors and graduate students. Research and field work along selected lines of investigation. Prerequisite: Sociology 1 and 11, or the consent of the instructor.

Second semester; one hour weekly, to be arranged, and not less than six hours of investigation; Assistant Professor HARTMAN.

8. Problems of Child Welfare. (2 Hrs.) For sophomores and juniors. Heritage of the child health, home conditions, play, training, work; defective, dependent and delinquent children; institutions and movements for child saving.

Second semester; T. Th., 9:00; Assistant Professor HARTMAN.

9. Race Problems. (2 Hrs.) For juniors and seniors. History, causes and effects of immigration; methods of assimilation. The negro problem. Prerequisite: Sociology 1.

First semester; T. Th., 9:00; Assistant Professor HARTMAN.

10. Rural Sociology. (3 Hrs.) For sophomores and juniors. A broad survey of the field of rural life in its social aspects; methods of improvement.

First semester; M. W. F., 11:00; Assistant Professor HARTMAN.

12. Crime and Punishment. (2 Hrs.) For juniors and seniors. Theories and history of crime and punishment; causes of crime; modern methods of correction and prevention. Prerequisite: Sociology 1.

First semester; T. Th., 10:00; Assistant Professor HARTMAN.

13. Scientific Philanthropy. (2 Hrs.) For sophomores and juniors. Causes, amelioration and prevention of poverty; philanthropic institutions, their scope, management, control, inspection. Prerequisite: Sociology 1.

Second semester; T. Th., 10:00; Assistant Professor HARTMAN.

Rural Economics.

For courses in rural economics see Announcements of the College of Agriculture.

EDUCATION.

Professor DEAHL, Professor CAVINS, Professor L. B. HILL, Professor HUDELSON and Miss BRECK.

The coures offered in this department aim to contribute to the educational influence and to the professional efficiency of the schools of the state in the following ways: (1) To interest those students who study the science of education as a part of their general education. (2) To afford students who wish to teach for a time after graduation the means of professional training commensurate with their academic training. (3) To furnish appropriate professional education to students, and to any experienced teachers of suitable age and attainments, who may desire to fit themselves to be teachers, principals, or superintendents of schools.

Students who take education as their major and who expect to do administrative and supervisory school work should take college courses representing a wide range of subjects taught in the public schools.

Those who are preparing to teach academic subjects should fit themselves to give instruction in as many as three subjects.

All students whose major is education should so plan their work that the afternoons in their senior year may be open for practice teaching, or for supervisory work, or for experimental work in education.

NOTE—Courses in Education are open only to juniors, seniors, or graduate students, except that Education 17 is open to freshmen and sophomores, and Education 12 is open to sophomores.

NOTE—For description of laboratory equipment in education and psychology, see Catalogue, page 26.

History of Education.

1. **History of Education.** (2 Hrs.) A brief study of early European education and of the middle ages; the forces in civilization that help and that hinder in the development of the school as an institution; the changing meaning of education due to the renaissance, the reformation, and the rise of science and of the scientific method of study; the development of logic, psychology, sociology, and the doctrine of evolution in their infuence on education and on human freedom.

First semester; T. Th., 8:00; Professor HILL, 17 W.

2. **History of Education.** (2 Hrs.) The purpose of the course is to enable the student to get a clear notion of how the American school has grown up and to apprehend what forces in society and what principles of education should direct American schools in the present and in the future.

Second semester; T. Th., 8:00; Professor HILL

8. Foreign School Systems. (2 Hrs.) A comparative study of the old and new school systems of Germany and France will be made; typical features of other continental systems will be examined; constructive suggestions will be offered from the standpoint of education for democracies.

Second semester; T. Th., 11:00; Professor Hill, 17 W.

9. School Systems, British and American. (3 Hrs.) This course deals with the present day organization of educational systems in the United States, England, Scotland, and Canada. The development of each system will be studied as far as it may contain suggestions for constructive organization.

First semester; M. W. F., 8:00; Professor Hill, 17 W.

NOTE—Courses 8 and 9 will not be given unless the number of students desiring them is considered sufficient by the instructor in charge.

Philosophy of Education.

4. Philosophy of Education. (3 Hrs.) This course is a study of the principles of education that should obtain in a democracy. The meaning of education in individual development and in social efficiency, a correct education theory and a consistent education doctrine, such as a changing and developing civilization requires, are emphasized. The nature of experience in its relation to thinking, method, subject-matter, and to the mind in its making is pointed out.

First semester; M. W. F., 11:00; Professor Deahl, 17 W.

5. Educational Sociology. (3 Hrs.) In this course the school is studied as social, civic, and vocational institution. The principles of sociology as applied to the organization, supervision, program of studies, learning, and teaching in the school are examined and interpreted. The extension of the school—continuation, night, and part time schools, boys' and girls' clubs, school projects, vocational guidance, and similar topics—as a community need is pointed out.

Second semester; M. W. F., 11:00; Professor Deahl, 17 W.

Administration and Supervision.

6. School Administration and Supervision. (2 Hrs.) Open to seniors and graduate students. A study of schools and school systems, organization and control of schools, school plant and equipment, preparation and function of principles and superintendents, selection and tenure of teachers, teaching corps and supervision of teachers, retardation and acceleration of pupils.

First semester; T. Th., 11:00; Professor Deahl, 17 W.

7. School Administration and Supervision. (3 Hrs.) Open to seniors and graduate students. This course makes a study of scientific management as applied to school administration and supervision. School surveys, measurement of school products, tests of teaching, efficiency and supervisory control of learning and teaching.

Second semester; T. Th., 4:00; Professor CAVINS, 16 W.

11.† Supervision of Learning and Teaching. (3 Hrs.) Open to seniors and graduate students who have had Education 10 or its equivalent. Primarily for those preparing to teach education or to become supervisors, principals, or superintendents. An intensive study of learning and teaching is made from the point of view of the one who supervises and directs the learning and the teaching. Directed observation of teaching, lesson planning, teaching, and supervising teaching, are exemplified with class work.

Second semester; M. W. F., 9:00; Professor DEAHL, 17 W.

15. District Supervision. (2 or 3 Hrs.) For district and county superintendents and those preparing for such positions. The function of the rural school; the programs of studies suited to country life; the preparation of teachers; the characteristics of economic learning and successful teaching; the duties and opportunities of district supervisors; and the relations of the rural school to other agencies of education.

Second semester; T. Th., 11:00; Professor DEAHL, 17 W.

13. The Elementary School Curriculum. (3 Hrs.) The traditional elementary school studies are examined in the light of the purpose of the elementary school. A new program of studies is proposed more nearly in harmony with the wholesome normal activities of the child life. The course also attempts to show how the fundamentals may be acquired through the proposed new curriculum.

First semester; M. W. F., 8:00; Professor HILL, 17 W.

Educational Psychology.

12. Educational Psychology. (3 Hrs.) An introductory course in educational psychology open only to freshmen and sophomores who have had no elementary psychology. This course will use textbooks but the problems of behavior as a whole will be studied experimentally to find the laws of learning in study. The beginning, development, and function of knowledge will be illustrated and interpreted from the psychological and logical bases of learning.

Second semester; M. W. F., 10:00; Professor DEAHL, 17 W.

23. **Educational Psychology.** (3 Hrs.) An advanced course in educational psychology open only to junior, senior, and graduate students. Learned and unlearned behavior, instincts, capacities, laws of learning, individual and group differences will be studied as bases for school learning, studying selection of studies, supervision of instruction, and organization.. Textbook, reference reading, experiments, and graphs will be used.

First semester; M. W. F., 9:00; Professor HILL, 17 W.

Principles of Learning and Teaching.

10. **The Principles of Teaching.** (3 Hrs.) Required of all students who are candidates for recommendation for teachers' certificates. The fundamental principles of learning and teaching, method in its relation to subject matter, the selection and organization of subject matter, laboratory methods, and directed study will be studied and interpreted. The principles will be illustrated and exemplified by observation of teaching, lesson planning, and by teaching.

First semester; M. W. F., 9:00; second semester; M. W. F., 8:00; Professors HILL, CAVINS, and HUDELSON, 17 W.

17. **Principles of Study.** (3 Hrs.) Open only to freshmen and sophomores. This course makes an examination of the principles of economic and effective studying. The processes of observation, reflection, and retention in studying are investigated from the biological and functional point of view. The factors of study are emphasized.

First semester; M .W. F., 10:00; Professor DEAHL, 17 W.

34. **Introduction to Teaching.** (3 Hrs.) For freshmen who have had neither normal training nor experience in teaching. A study of the advantages and disadvantages of the vocation of teaching. Observation and study of the various types of teaching, the opportunities for rendering service in the teaching profession, and individual fitness for the various types of service.

First semester, M. W. F., 11:00; Professor HILL, 17 W.

NOTE—Either 17 or 34 may be elected, but both courses will not be counted for teacher certification.

22. **Directed Teaching.** (2 Hrs.) Required for recommendation for teachers' certificates. This course consists in selecting and in organizing subject matter, lesson planning and conference teaching under the supervision of the instructor. The teaching is followed by a conference of the student with the supervising instructor. In this course each student will examine and interpret the nature and the

educative values of subject matter taught and the most economic and effective method of learning and of teaching the subject.

First semester; T. Th., 8:00; second semester; T. Th., 9:00; Professors HILL, CAVINS, and HUDELSON, 16W. Miss BRECK, O. H.

Secondary Education.

14. **High Schools and Secondary Education.** (3 Hrs.) This course deals with the fundamental conceptions, historical and comparative, of the secondary school and its differentiation from other types of educational institutions. It aims to assist in adapting secondary education on the one hand to meet the needs of pupils, and on the other hand to meet the needs of society.

First semester; M. W. F., 10:00; Professor HUDELSON, 16 W.

18. **The Teaching of English in the Secondary School.** (2 Hrs.) Primarily for juniors and seniors. A study of the history of the development of the English course in the American high school, the principles of the selection and organization of subject matter, of methods of teaching, and standards for measuring methods of teaching and subject matter.

Second semester; T. Th., 9:00; Miss POLLOCK, 30 W.

25. **Normal School Problems.** (2 Hrs.) The function of the normal school and other teacher training agencies in the state; the relation of subject matter and its teachers to method and its teachers. A study of the appeal of the teaching profession, including the following topics: sources of recruits, reasonable certification requirements, compensation, tenure, pensions, social position, and growth in service.

Second semester; hours to be arranged; Professor HILL, 16 W.

28. **Problems in Secondary Education.** (2 Hrs.) This course aims, through a study of the means and materials of secondary education, to adopt the various high school subjects to the aims and functions arrived at in Education 14.

Second semester; T. Th., 8:00; Professor HUDELSON, 16 W.

32. **Junior High School.** (2 Hrs.) A study of the origin, development, and present organization and character of the junior high school. Opportunity will be afforded for observing and for doing constructive experimental work in junior high schools.

First semester; T. Th.; hours to be arranged; Professor HUDELSON, 16 W.

Experimental Education, Tests, and Measurements.

26. Statistical Methods Applied to Education. (3 Hrs.) The purpose of this course is to acquaint the student with the most economical and scientific methods of handling educational materials. Practical problems are provided in order to give training in tabulating, graphing, and interpreting educational data.

Second semester; M. W. F., 9:00; Professor CAVINS, 16 W.

27. Experimental Education. (3 Hrs.) The members of the class carry on a series of selected laboratory experiments to illustrate various types of learning, the learning process involved in some of the school subjects and some tests of attainment in these subjects. Each member of the class also makes a group report of the results on one of the experiments. The laboratory work is accompanied by a critical study of the literature of experimental education. Such topics as the kind of learning, transfer of effects of learning, etc., will be discussed.

First semester; M. W. F., 9:00; Professor CAVINS, 16 W.

30. Educational Tests and Measurements. (3 Hrs.) This course provides for a study of the various standard scales, tests, and measurements that have been devised for measuring the results of teaching. It includes a study of the test movement, its possilities and its one of the experiments.

First semester; M. W. F., 10:00; Professor CAVINS, 16 W.

20.† Mental Tests and Measurements. (The amount of credit will depend on the quality and quantity of work done, 2 to 6 hours.) Open to seniors and graduates. Mental traits and capacities of normal, retarded, and delinquent children; tests and measurements for learning and teaching; accurate standards for classifying and promoting pupils in school.

First or second semester; hours to be arranged; Professor DEAHL, 17 W.

Agricultural Education.

16. Agricultural Education. (3 Hrs.) Candidates for recommendation for a teacher's certificate who are registered in the College of Agriculture must take this course in place of Course 10 in their senior year. (See announcements of College of Agriculture.)

Second semester; T. Th., 11:00; Professor WINKLER, 27 M.

NOTE—For other courses in agricultural education ,see announcements of the College of Agriculture.

ELECTRICAL ENGINEERING.

Credit will be given in the College of Arts and Sciences for courses 51 to 56 in electrical engineering offered in the College of Engineering. For details regarding these courses see the announcements of that college.

ENTOMOLOGY.

Professor PEAIRS.

1. **General Entomology.** (4 Hrs.) A study of the external structures, classification, habits, and local distribution of insects and their near relatives. Lectures and text-book. Laboratory and field work in the collecting and mounting of the more common local insects, the classification of the insects, and the study, aided by dissections and drawings, of the external anatomy of various types. Laboratory fee, $1.00.

Second semester; M. W. F., 11:00; Th., 2:00; A.

Credit will also be given in the College of Arts and Sciences for Courses 2, 3, 4, 5, 6 and 9 in entomology offered in the College of Agriculture. For detailed announcement of these courses see the announcements of that college.

FARM MANAGEMENT.

Associate Professor DADISMAN.

2. **Rural Economics.** (3 Hrs.) The study of economics as related to all phases or rural life.

Second semester; M. W. F., 8:00.

Credit will also be given in the College of Arts and Sciences for Course 1 in farm management offered in the College of Agriculture. For detailed announcement of this course see the announcements of that college.

FRENCH.

For announcement of courses in French see Romance Languages, page 137.

ENGLISH.

Professor ARMSTRONG, Professor COX, Professor BARBE, Professor SMITH,[1] Professor JOHNSON, Assistant Professor H. C. GRUMBINE, Assistant Professor POLLOCK, Mr. WILLIAMS, Miss FROST, Miss LYTLE and Mrs. PETTIGREW.

Composition and Rhetoric.

1. **Composition and Rhetoric.** (3 Hrs.) Primarily for freshmen. Required of all candidates for the bachelor's degrees in all the colleges. Two themes weekly, conferences, recitations on text books, class criticism of written exercises, lectures.

First semester; sections M. W. F. at 8:00, 9:00, 10:00, 11:00 and 2:00; T. Th., S., at hours to be arranged; Professor JOHNSON and staff.

Second semester; 8:00.

2. **Composition and Rhetoric.** (3 Hrs.) Primarily for freshmen. Required of all candidates for the bachelor's degrees in all the colleges. A continuation of Course 1 with more attention to rules and principles. Two themes weekly; study of prose masterpieces as models of style and as material for themes; conferences, recitations, class criticism of written exercises, lectures. Prerequisite: English 1. 4:00; T. Th., S., at hours to be arranged; Professor JOHNSON and staff.

NOTE—Students will not be continued in English 1 or 2 whose work during the first three weeks shows marked deficiency in spelling, punctuation, grammar, sentence structure, or paragraphing.

Engineering and agricultural students will be assigned as far as possible to special sections.

8. **Composition and Rhetoric.** (3 Hrs) This course is of the same nature as Course 1, and may be taken instead of it by students who did not have the opportunity to take that course or who did not receive credit for it in the first semester. The course may also be elected by students who need further work of the same grade as that afforded in Course 1. But practical study of prose composition with frequent written exercises and a study of prose models.

Second semester; M. W. F., 8:00; Miss LYTLE.

3. **Composition and Rhetoric.** (3 Hrs.) Students who have taken course 1 or course 8 during the second semester or during the Summer school may complete the requirement in freshman composition by taking course 3 in place of the regular course 2. The course is also open to students who need further work of the same nature as that

given in course 2. A study of the various types of prose composition with frequent written exercises and study of models.

First semester; M. W. F., 8:00; Mr. WILLIAMS.

NOTE—Completion of Courses 8 and 3 instead of Course 1 and 2 will satisfy the requirements for freshman composition.

6. Composition. (3 Hrs.) A study of the general principles of narration and description with frequent themes and exercises. Prerequisite: Course 1, 2, 26, and 27.

First semester; M. W. F., 9:00; Miss FROST.

12. Composition. (3 Hrs.) A continuation of Course 6, with special attention to the writing of the letter, the biographical sketch, and short-story. Either Course 6 or Course 12 may be taken separately. Prerequisite: Courses 1, 2, 26, 27.

Second semester; M. W. F., 9:00; Miss FROST.

4. Expository Writing. (2 Hrs.) A study of general principles and analysis of typical specimens with special reference to practical forms of expository composition. Prerequisite: Courses 1, 2, 26, 27.

First semester; T. Th., 10:00; Professor JOHNSON.

7. Expository Writing. (2 Hrs.) A continuation of Course 4 with special reference to the informal essay and other literary types of expository composition. Either Course 4 or Course 7 may be taken separately. Prerequisite: English 1, 2, 26, 27.

Second semester; T. Th., 8:00; Professor JOHNSON, 24 W.

NOTE—Either Course 4 or Course 7 is required of students whose major is English.

13. The Magazine Article. (3 Hrs.) For juniors and seniors. Introductory to course 15. A general survey, followed by intensive study of one or two kinds; the short story, the biographical portrait, the serial, the travel-sketch, the essay in its severe and intimate moods. The elementary priciples of individual and social psychology relationg to the subject.

The course is especially designed for students who desire insight into the technique, and practice in the essentials of present-day magazine-writing. Assigned reading. Original articles of magazine length. (Omitted 1921-22.)

First semester; M. W. F., 10:00; Professor GRUMBINE.

15. Modern Prose. (3 Hrs.) For juniors and seniors. A continuation of Course 13. A study of structure in the longer forms of periodical literature, with special reference to social and spiritual forces

now prevalent, and to the historical evolution of style. (Omitted 1921-22.)

Second semester; M. W. F., 10:00; Professor GRUMBINE, 36 L.

14. **Technical English.** (1 Hr.) Primarily for seniors in the College of Engineering. Consideration of some special problems of technical composition, preparation, criticism, and revision of student exercises, reports, theses, eac; study of some good examples of technical literature.

Second semester; F., 10:00; Professor JOHNSON, 24 W.

5.† **Advanced Composition.** (2 Hrs.) For seniors and graduate students. A study of some special subject as, for example, style, criticism, rhetorical analysis, history of rhetoric; or practice in some form of composition. Lectures, written exercises and study of prose masterpieces. The work will be varied to suit the needs of the students who desire the course.

First semester; T. Th., 11:00.

9.† **Advanced composition.** (2 Hrs.) For seniors and graduate students. A continuation of Course 5, but either course may be taken separately.

Second semester; T. Th., 11:00.

16. **English Words.** (2 Hrs.) A study of English words and particularly of the student's individual vocabulary from the standpoint of correct usage and of propriety and effectiveness of diction. Prerequisite: Course 1.

Second semester; T. Th., 10:00; Professor JOHNSON, 24 W.

17. **English Words.** (2 Hrs.) A study of the general vocabulary of modern English and of the origins, gradual differentiation in meaning, and present forms, uses, and grammatical functions of English words. The course is designed to afford the student greater facility in his own use of English. Prerequisite: Course 1 or 8.

First semester; T. Th., 8:00; Professor JONHSON, 24 W.

Journalism.

The courses in journalism are planned to meet the needs of three classes of students: (1) Those who wish to make journalistic training and practice the nucleus of a general education that shall be strictly modern in content and that may in large measure be given direct, practical application; (2) those who believe that a mastery of effective newspaper English, a knowledge of how to attract the attention of both individuals and groups, and an understanding of the methods and devices underlying successful public-relations systems are indispensable in all modern business and industrial affairs; and (3) those who contemplate reportorial and literary work, class and industrial journalism, or newspaper editing and management as a career.

71. News Gathering and Writing. (3 Hrs.) News sources and methods of collection. News values as exemplified in representative newspapers. Typical newspaper narratives. Practice in gathering news and in writing the news story. Prerequisites: English 1, 2, 26, 27.

First semester; M. W. F., 11:00; Assistant Professor REED.

72. The Newspaper. (3 Hrs.) Two lectures and three laboratory hours. A continuation of Course 13. Organization, style, methods and mechanical details of the newspaper. Analysis of representative publications. Functions of the weekly and the daily. Interviewing and newspaper correspondence. Syndicates and press associations. Consideration of and practice in the various phases of newspaper making. Prerequisite: Course 71.

Second semester; M. 2:00-5:00, W. and F., 11:00; Assistant Professor REED,

73. Newspaper Editing I. (2 Hrs.) One lecture and three laboratory hours. Editing reporter's copy, preparing headlines, rewriting, proof reading, making-up, type selection and printing processes. Prerequisites: Courses 61 and 62, or consent of the instructor.

First semester; T. 2:00-5:00, Th. 2:00; Assistant Professor REED,

74. Newspaper Editing II. (2 Hrs.) One lecture and three laboratory hours. Continuation of Course 63.

Second semester; T. 2:00-5:00, Th. 2:00; Assistant Professor REED,

75. Feature Articles. (2 Hrs.) Sources of materials for special articles. Manner of treatment. Types of feature stories. Study and criticism of special articles in current magazines and newspapers, with special attention to agricultural and industrial journals. Practice in writing the feature story. Prerequisites: Courses 61 and 62 or consent of instructor; not open to sophomores.

First semester; T. Th., 9:00; Assistant Professor REED.

76. Advertisement Writing. (2 Hrs.) Principles and psychology of advertising. Problems of salesmanship through printed matter. Preparation of the important types of advertising copy, and the planning of publicity campaigns. Prerequisites: Except by permission, Courses 61 and 62 or consent of instructor; not open to sophomores.

Second semester; T. Th., 9:00; Assistant Professor REED.

77. Class, Trade and Industrial Journalism. (3 Hrs.) Journalistic practice as adapted to the special needs of the professions, business, industry, technology and the like. Writing and research in special fields chosen by students. Primarily for seniors. Prerequisites: Courses 61, 62, 63 and 64.

First semester; M. W. F., 9:00; Assistant Professor REED.

78. History of Journalism. (2 Hrs.) Lectures, readings and reports on the growth of American journalism and on the part of American journalists in the nation's progress. Prerequisites: Courses 61, 62, 63 and 64 or consent of instructor

Second semester; M. F., 10:00; Assistant Professor Reed.

79. The Editorial. (2 Hrs.) Sources, themes and styles of editorials. News interpretation. Editorial study, analysis and classification. Writing of editorials and preparation of the editorial page. Primarily for seniors. Prerequisites: Courses 61, 62, 63 and 64 or consent of instructor.

Second semester; T. Th., 11:00; Assistant Professor Reed.

English Language and Literature.

The aims of this division of English are: (a) a scientific knowledge of the origin and development of the English language; (b) a general acquaintance with English literature; (c) a specific knowledge of certain great authors, periods, and movements in English literature. Freshman English is a prerequisite to other courses in literature.

20. Old English. (3 Hrs.) Not open to freshmen. Required of all students who make English their major. Bright's Anglo-Saxon Reader; the essentials of Anglo-Saxon grammar; translations. Prerequisites: English 1, 2, 26, 27.

First semester; M. W. F., 8:00; Professor Cox, 32 W.

21. Old English—Beowulf. (3 Hrs.) Translations with due attention to text, meter and literary history. Prerequisite: English 20.

Second semester; M. W. F., 8:00; Professor Cox, 32 W.

22. Early Middle English. (2 Hrs.) Changes in the language. Reading of early middle English texts. Prerequisite: English 20.

First semester; T. Th., 8:00; Professor Cox, 32 W.

24. Chaucer. (3 Hrs.) The Canterbury Tales. Required of students who make English their major. Prerequisites: English 1, 2, 26, 27.

Second semester; M. W. F., 9:00; Professor Cox, 32 W.

25. Shakespeare. (3 Hrs.) A critical study of Othello, Macbeth, Twelfth Night. Required of all students who make English their major. Prerequisites: English 1, 2, 26, 27.

First semester; M. W. F., 9:00; Professor Cox, 32 W.

26. General Survey of English Literature. (2 Hrs.) Primarily for freshmen. Required of candidates for degrees in the College of Arts and Sciences and in the College of Agriculture. Historical view

of English literature from its beginnings to the eighteenth century, and a close, critical study of a few classics from each of the great periods of literary development.

First semester; sections T. Th., 8:00, 9:00; 10:00, 11:00 and 2:00; Professor ARMSTRONG and staff.

27. General Survey of English Literature. (2 Hrs.) Primarily for freshmen. Required for candidates for degrees in the College of Arts and Sciences and the College of Agriculture. A continuation of English 26. A survey of English literature in the eighteenth and nineteenth centuries. Prerequisite: English 1 and 26.

Second semester; sections T. Th., 8:00, 9:00, 10:00, 11:00, and 2:00; Professor ARMSTRONG and staff.

NOTE—Students are expected to take Courses 26 and 27 in connection with English 1 and 2, in order to make up five hours of freshman English required in each semester.

28. Shakespeare. (3 Hrs.) Required of all students who make English their major. One play is studied closely and critically, and a number of others are read with attention to characters, plot development, and general literary interpretation. Prerequisites: English 1, 2, 26, 27.

Second semester; M. W. F., 8:00; Professor ARMSTRONG, 31 W.

29. Milton. (2 Hrs.) A study of Milton's poems, the Areopagitica. Prerequisites: English 1, 2, 26, 27.

Second semester; T. Th., 11:00; Professor COX, 32 W.

32. English Literature. (3 Hrs.) From the death of Swift to the publication of the Lyrical Ballads (1745-1798). The authors studied are Gray, Collins, Johnson, Goldsmith, Cowper, Sheridan, Burke, Burns, and Blake, with some attention to lesser authors. Prerequisites: English 1, 2, 26, 27.

First semester; M. W. F., 8:00; Professor BARBE, 33 W.

33. English Literature. (3 Hrs.) From the publication of Lyrical Ballads to the death of Scott (1798-1832). The authors studied are Wordsworth, Byron, Shelley, Keats, and Scott. Prerequisite: English 1, 2, 26, 27.

Second semester; M. W. F., 9:00; Professor ARMSTRONG, 31 W.

44. Mid-Victorian Poetry. (2 Hrs.) A study of the poetry of Matthew Arnold, Dante Gabriel Rossetti, and William Morris, and of the relation of these writers to the spirit of their time. Prerequisites: English 1, 2, 26, 27.

First semester, T. Th., 9:00; Professor BARBE, 33 W.

36. The English Old Testament. (3 Hrs.) Required of all students who make English their major. A study of the Old Testament in English as literature; discussion of its literary forms and interpretation of some of its masterpieces. Prerequisites: English 1, 2, 26, 27.

First semester; M. W. F., 9:00; Professor ARMSTRONG, 31 W.

37. The English New Testament. (3 Hrs.) A study of the New Testament in English as literature. All the books are read and a few studied with attention to literary form and interpretation. Prerequisites: English 1 2, 26, 27. (Omitted in 1921-22).

First semester; M. W. F., 9:00; Professor ARMSJRONG, 31 W.

38. The Short Story. (3 Hrs.) The short story as a form of literature. A study of its development and some of its types from Poe to the present time. Prerequisites: English 1, 2, 26, 27.

Second semester; T. Th., 10:00; Professor ARMSTRONG, 31 W.

39. American Literature. (3 Hrs.) A general survey of three centuries of prose and poetry in America as they express the life, spirit and ideals of the people. Prerequisites: English 1, 2, 26, 27. ‹Omitted in 1921-22).

First semester; M. W. F., 11:00; Professor ARMSTRONG, 31 W.

43. Types of American Fiction. (3 Hrs.) A study of a few examples of the main types of American fiction with attention to their literary qualities and the pictures and problems of life presented. Prerequisites: English 1, 2, 26, 27.

First semester; M. W. F., 9:00; Professor ARMSTRONG, 31 W.

41. American History in American Literature. (3 Hrs.) A study in chronological order, of the greater poems and stories that record the great events of American history and the achievements of the American spirit. Prerequisites: English 1, 2, 26, 27. (Omitted in 1921-22).

Second semester; M. W. F., 9:00; Professor ARMSTRONG, 31 W.

49. Democracy in American Literature. (3 Hrs.) A study of the spirit and development of American democracy as interpreted by some of the great state papers, orations, stories, and poems of American literature. For seniors and graduate students.

First semester; M. F., 10:00; a third hour to be arranged. Professor ARMSTRONG, 31 W.

50. Current Periodical Literature. (1 Hr.) The object of the says, and short stories appearing in American periodicals of the first course is to encourage students to read some of the best poems, es-

class. The work of the course will consist of lectures, assigned readings, reports, and discussions. Open to freshmen. (Omitted in 1921-22).

First semester; M., 10:00; Professor ARMSTRONG, 31 W.

56. Modern American Poetry. (2 Hrs.) A study of current and recent poetry in America. Prerequisites: English 1, 2, 26, 27.

First semester; T. Th., 10:00; Professor ARMSTRONG, 31 W.

57. Recent and Current English Poetry. (2 Hrs.) A study of representative English poets of the last twenty-five years. Prerequisites: English 1, 2, 26, 27. (Omitted in 1921-22).

Second semester; T. Th., 9:00; Professor BARBE, 33 W.

54. The Modern Drama. (3 Hrs.) Reading and criticism of plays by recent and contemporary dramatists. A few foreign plays in translation will be considered.

Second semester; M. W., and F., 11:00; Professor Cox, 32 W.

42. English Literature. (3 Hrs.) For seniors and graduate students. Study of an author. The entire production or the most important work of some selected author is studied to gain a complete view. The author studied is Emerson.

Second semester; T. Th., 8:00 and third hour to be arranged; Professor ARMSTRONG, 31 W.

47. Wordsworth. (3 Hrs.) A study of the poetry of Wordsworth. (Omitted in 1921-22).

Second semester; M. W. F., 4:00; Professor BARBE, 33 W.

55. Tennyson. (2 Hrs.) A study of Tennyson's Poetry. Prerequisites: 1, 2, 26, 27.

First semester; T. Th., 11:00; Professor Cox, 32 W.

51. Browning. (3 Hrs.)

Second semester; M. W. F., 4:00; Professor BARBE, 33 W.

58. Rudyard Kipling. (3 Hrs.) A study of the prose and poetry of Rudyard Kipling. (Omitted in 1921-22.) Prerequisites: English 1, 2, 26, 27.

First semester; M. W. F., 11:00; Professor Cox, 32 W.

40. The Novel. (3 Hrs.) Various types of the novel are studied in order to show its development and its relation to life. Prerequisites: English 1, 2, 26, 27. (Omitted in 1921-22).

Second semester; M. W. F., 11:00; Professor Cox, 32 W.

46.† A Study of Poetry. (2 Hrs.) The historical development of English poetry; types of poetry; the essential qualities of poetry; old and new forms; English metres. The course will include a study of a large number of illustrative examples. For seniors and graduate students.

Second semester; T. Th., 9:00; Professor BARBE, 33 W.

48.† The Ballad. (2 Hrs.) A study of the traditional English and Scottish ballads with a special consideration of the types found in West Virginia. Elective for seniors and graduate students. Prerequisites: English 1, 2, 26, 27.

Second semester; T. Th., 8:00; Professor Cox, 32 W.

52. The Nature Element in Poetry. (3 Hrs.) Special attention is given to Wordsworth, Bryant, and Lowell. Prerequisites: English 1, 2, 26, 27.

First semester; M. W. F., 11:00; Professor Cox, 32 W.

61.† The Psychology of Composition and Literature. (3 Hrs.) For seniors and graduates. An exposition of the theory of literary criticism based on a systematic consideration of the thought and feeling processes involved both in the creation of literature and in the appreciation of it. Prerequisites: English 1, 2, 26, 27.

First semester; T. Th., 10:00; third hour to be arranged; Assistant Professor GRUMBINE, 47 W.

62. Comparative Literature. (3 Hrs.) Reading from a few conspicuous novels from the seventeenth century to the present day. The novels chosen will include not only English and American authors but also standard English translations of a few French and German books. Prerequisites: English 1, 2, 26, 27.

Second semester; M. W. F., 9:00; Mr. WILLIAMS.

63.† The Aesthetic of Composition and Literature. (3 Hrs.) For seniors and graduate students. A continuation of oCurse 61. The philosophy of beauty. The element of pleasure in literature as it appears in material, form, expression. Individual investigation in the literature of criticism and in literature itself. Thesis Seminar.

Second semester; T. Th., 10:00; third hour to be arranged; Professor GRUMBINE, 36 L.

18. The Teaching of English in the Secondary School. (2 Hrs.) Primarily for juniors and seniors. A study of the history of the development of the English course in the American high school, the principles of the selection and organization of subject matter, of methods of teaching and standards for measuring methods of teaching and subject matter. Prerequisites: English 1, 2, 26, 27.

Second semester; T. Th., 9:00; Miss POLLOCK, 30 W.

GEOLOGY AND MINERALOGY.

Professor BROWN, Associate Professor TILTON and Assistant Professor SCHEFFEL.

NOTE—Excursions are taken by the classes over the outcrop of the Coal Measures and through the westernmost fold of the Appalachian Mountains, giving, within a radius of seven miles of the University, a complete geological section through the Mississippian and Pennslyvanian (Coal Measures) systems. Producing oil and gas wells are situated within ten miles of the University.

For a description of the geological museum and laboratory, see page 25 of the Catalogue.

1. Physical Geography. (3 Hrs.) This course treats of the surface of the aerth, its form, and the forces in action, with their effect on the life upon it. Designed especially for those who wish to teach physical geography. Outdoor trips. Prerequisites: Some knowledge of physics or chemistry.

First semester; M. W. F., 8:00; Assistant Professor SCHEFFEL, 111 M. H.

2. General Geology. (3 Hrs.) Not open to freshmen. Surface features of the earth, stratigraphy, and structural geology. Numerous excursions will be taken. Text-book, Pirrson and Schuchert. Prerequisite: Some knowledge of chemistry.

First semester, section one; M. W. F., 11:00; Professor BROWN, 111 M. H.; section two, M. W. F., 10:00, Assistant Professor SCHEFFEL, 111 M. H.; section three, M. W. F., 9:00; Associate Professor TILTON, 111 M. H.

Second semester; M W. F., 11:00; Professor BROWN, 111 M. H.

21. General Geology Laboratory. (1 Hr.) Designed to accompany or follow Geology 2. A study of the commoner rocks and rock forming minerals; drawing of structural forms; interpretation of topographic maps; use of hand instruments. Size of class limited.

Either semester; Th., 10:00-12:00; Assistant Professor SCHEFFEL, 111 M. H.

28. Historical Geology. (3 Hrs.) Not open to freshmen. A continuation of Geology 2. The history of the earth and its inhabitants as revealed in the rocks through the Paleozoic Era. Text-book, Pirsson and Schuchert. Prerequisite: Geology 2. Some knowledge of botany and zoology is desirable.

First semester; M. W. F., 11:00; Associate Professor TILTON, 111 M. H.

30. Historical Geology Laboratory. (1 Hr.) A systematic study of invertebrate fossils of the Paleozoic Era designed to accompany Geology 28; also collection and identification of fossils, following Shimer's "Introduction", Grabau and Shimer's "Index Fossils", and Zittel's "Paleontology."

First semester; T., 2:00-5:00; Associate Professor TILTON, 112 M. H.

29. Historical Geology. (3 Hrs.) A continuation of course 28. The history of the earth and its inhabitants as revealed in the rocks from the end of the Paleozoic Era to the present time. Text-book, Pirsson and Schuchert, accompanied by collateral reading. Prerequisite: Same as for course 28.

Second semester; M. W. F., 11:00; Associate Professor TILTON, 112 M. H.

32. Historical Geology Laboratory. (1 Hr.) This course is a continuation of course 30, and is designed to accompany course 29. The first part of the semester is given to a further systematic study of Invertebrates, the remainder to the study of the geologic history of Vertebrates. Text-book, Woodward's "Vertebrate Paleontology," supplemented by other texts and by the use of Ward's casts.

Second semester; T., 2:00-5:00; Associate Professor TILTON, 112 M. H.

3. Historical Geology. (3 Hrs.) Not open to freshmen. A condensed course for those who cannot arrange to give both semesters to the subject. Text-book, Pirsson and Schuchert. Prerequisite: Geology 2. Some knowledge of botany and zoology is desirable.

Second semester; M. W. F., 10:00; Associate Professor TILTON, 111 M. H.

31. Historical Geology Laboratory. (1 Hr.) This course is arranged to accompany Geology 3, with special emphasis upon structural sections and areal geology, based upon reports and geologic folios, and upon field data obtained by the class.

Second semester; W., 2:00-5:00; Associate Professor TILTON, 111 M. H.

4. Economic Geology. (3 Hrs.) Designed for juniors and seniors. Treats of the occurrence and distribution of the non-metallic minerals, with attention to the geology of coal, oil and gas. Text-book, Ries' Economic Geology. Prerequisite: Geology 2 or 6.

Second semester; M. W. F., 11:00; Assistant Professor SCHEFFEL, 111 M. H.

5. Economic Geology. (3 Hrs.) Designed for juniors and seniors. An account of the occurrence of ore deposits and the distribution of metallic minerals. Text-book, Ries. Prerequisites: Geology 2, or Geology 6.

Second semester; M. W. F., 10:00; Professor BROWN, 113 M. H.

6. General Mineralogy. (5 Hrs.) Designed for sophomores. The principles of crystallography, physical and chemical properties, formation, uses and determination of the more important minerals. Text-book, Moses and Parsons' Mineralogy. Prerequisites: Trigonometry and some knowledge of chemistry and physics.

First semester; 8:00; Professor BROWN, 113 M. H.

7. Determinative Mineralogy. (5 Hrs.) A continuation of course 6. Work in determining minerals and making precise measurements with reflecting goniometer. Text-book, Moses and Parsons. Prerequisites: Geology 6, some knowledge of chemistry and physics.

Second semester; 8:00; Professor BROWN, 113 M. H.

8. Geology of West Virginia. (2 Hrs.) Designed for seniors and especially for teachers in high schools. This course is a physical history of the state and an account of its economic resources. Prerequisite: Geology 2.

First semester; T. Th., 11:00; Professor BROWN, 111 M. H.

10. Building Stones. (2 Hrs.) A study of rocks with about 400 specimens of the various types from many countries. Adapted to the needs of engineers and architects.

Second semester; T. Th., 11:00; Professor BROWN, 111 M. H.

11. Petrography. (2 Hrs.) Designed for juniors and seniors. General principles of the use of polarized light in the study of minerals, followed by the application of those principles in the study of rock-forming minerals and then of rocks. The lectures are accompanied by laboratory study of microscopical sections and of hand specimens. Prerequisite: Geology 2; preferably additional knowledge of mineralogy and of light.

First semester; T. Th., 9:00; laboratory hours to be arranged; Associate Professor TILTON, 111 M. H.

13. Oil and Gas Geology. (2 or 3 Hrs.) Designed for seniors. The origin, properties, distribution and mode of accumulation of oil and gas; solid and semi-solid bitumens; reservoirs of oil and gas; location of wells; survey of scientific and technical literature bearing on the geology and production of oil and gas, including current journals, government and state publications. Text-book, John-

son and Huntley. Prerequisites: Geology 3, trigonometry, chemistry and physics.

First semester; T. Th., and a third hour to be arranged; 8:00; Assistant Professor SCHEFFEL, 111 M. H.

17. Field Geology. (3 Hrs.) Designed for juniors and seniors. Each student will be assigned a near-by area and a complete study of its surface geology will be made in the field, with collection of specimens. From notes taken, the student will make a geological map with structure sections, and write a systematic description with interpretations. Text-book, Lahee. Prerequisites: Geology 3, surveying.

Second semester; Th., 11:00; S., 8:00-12:00; Assistant Professor SCHEFFEL, 112 M. H.

Engineering Geology.

The following courses in geology designed particularly to meet the needs of students in mining engineering or in oil and gas engineering are offered in the College of Engineering.

89. Elementary Mineralogy. (2 Hrs.) Not counted for credit in the College of Arts and Sciences. Prereuiqsite: Chemistry 4 or equivalent.

First semester; T., 10:00; W., 2:00; Associate Professor CALLEN, 119 M. H.

92. Oil and Gas Production. (2 Hrs.) Leases and royalties; drilling and management of wells; valuation of oil and gas properties; reports on properties and prospects; size and scope of oil and gas companies; markets and supply; varieties and uses of refinery and other products of oil and gas. Addresses by oil and gas producers and other experts. Prerequisite: Geology 13.

Second semester; T. Th., 8:00; Assistant Professor SCHEFFEL, 112 M. H.

97. Oil and Gas Laboratory. (2 Hrs.) Calorimeter tests on oil and natural gas; the testing of lubricating oils; determination of viscosity and flashing points; the analysis of gases; tests on the absorption and compression methods of deriving gasoline from natural gas, etc. Prerequisites: Chemistry 16, Geology 13.

Second semester; F., 8:00 and 2:00; Associate Professor CALLEN, 119 M. H.

NOTE—For further information regarding engineering geology see the announcements of the College of Engineering.

GERMANIC LANGUAGES AND LITERATURE.

Professor TRUSCOTT and Miss MARTIN.

1. Elementary German. (5 Hrs.) Pronunciation, grammar, reading of simple prose. Thomas's Grammar; Super's Reader; Grimm's Maerchen.

First semester; M. T. W. Th. F., 9:00; Miss MARTIN, 18 W.

2. Elementary German. (5 Hrs.) Continuation of course 1. Reading, dictation, elementary composition. Immensee; Hoeher als die Kirche; Holzwarth's "Gruss aus Deutschland;" Truscott and Smith's "Elementary German Composition."

Second semester; M. T. W. Th. F., 9:00; Miss MARTIN, 18 W.

3. German Prose and Composition. (5 Hrs.) Reading of prose by modern authors; translation of English into German; grammar; dictation. Truscott and Smith's "Elementary German Composition."

First semester; M. T. W. Th. F., 8:00; Miss MARTIN, 18 W.

4. German Poetry and Composition. (5 Hrs.) One long poem and one drama; well known short poems. The work in composition will be a continuation of that in Course 3. "Hermann and Dorothea"; "Wilhelm Tell"; Hatfield's "German Lyrics and Ballads."

Second semester; M. T. W. Th. F., 8:00; Miss MARTIN, 18 W.

5. Germany and the Germans. (3 Hrs.) A course of general information about the country and the people. Aus vergangener Zeit; Lodemann's Germany and the Germans; Tower's Germany of Today; Boles's Deutsche Wirtschaft.

First semester; M. W. F., 8:00; Professor TRUSCOTT, 18 W.

6. Advanced Composition. (2 Hrs.) Translation; dictation, grammar. Bronson's Colloquial German; Osthaus's Prose Composition.

First semester; T. Th., 8:00; Professor TRUSCOTT, 18 W.

7. Romantic Period. (3 Hrs.) Reading selected from the prose and poetry of the first half of the nineteenth century. Prose by Arnim, Fouque, Chamisso, Eichendorff, and Immermann. Poetry by Heine, Platen, Schenkendorf, Rueckert and Uhland. This course is intended to follow Course 5.

Second semester; T. Th., 8:00; Professor TRUSCOTT, 18 W.

8. Advanced Composition. (2 Hrs.) A continuation of Course 6. Jagemann's German Composition.

Second semester; M. W. F., 8:00; Professor TRUSCOTT, 18 W.

9. Schiller. (5 Hrs.) Study of his life. Gedichte; selection from "Geschichte des dreissigjaehrigen Krieges;" "Wallenstein."

First semester; M. T. W. Th. F., 9:00; Professor TRUSCOTT, 18 W.

10. Goethe. (5 Hrs.) Study of his life. Gedichte; Werther's Leiden; Torquato Tasso; Faust, Part I.

Second semester; M. T. W. Th. F., 9:00; Professor TRUSCOTT, 18 W.

11.† History of German Literature. (3 Hrs.) Open to seniors and graduate students. The history of the literature to 1748; reading and discussion of works representative of the most important authors and periods. As a hand-book Klug's Geschichte der deutchen Nationalliteratur will be used. (Omitted in 1921-22).

First semester; M. W. F., 10:00; Professor TRUSCOTT, 18 W.

12.† History of German Literature. (3 Hrs.) Open to seniors and graduate students. A continuation of Course 11. The history of the literature efrom 1748 to 1900. The classical works of Lessing, Goethe and Schiller are not considered. (Omitted in 1921-22).

Second semester; M. W. F., 10:00; Professor TRUSCOTT, 18 W.

13. (G.) Lessing. Open to graduate students. Study of his life. Minna von Barnheim; Emilia Galotti; Nathan der Weise. Laocoon.

Semester, credit and hour to be arranged; Professor TRUSCOTT, 18 W.

14. (G.) Goethe's Faust. Open to graduate students. The legend of Faust before the time of Goethe. Study of Goethe's Faust, Part I and Part II.

Semester, credit and hour to be arranged; Professor TRUSCOTT, 18 W.

15. Modern German Drama. (2 Hrs.) A reading course. Prerequisites: Courses 1, 2, 3, 4 and 5. (Omitted in 1921-22).

First semester; T. Th., 9:00; Professor TRUSCOTT, 18 W.

16. Modern German Drama. (2 Hrs.) A continuation of Course 15. (Omitted in 1921-22).

Second semester; T. Th., 9:00; Professor TRUSCOTT, 18 W.

17. German Novel and Short Story. (2 Hrs.) A reading course in nineteenth century prose. Prerequisites: Courses 1, 2, 3, 4 and 5

First semester; T. Th., 11:00; Miss MARTIN, 18 W.

18. German Novel and Short Story. (2 Hrs.) A continuation of Course 17.

Second semester; T. Th., 11:00; Miss MARTIN, 18 W.

19. **Scientific German.** (3 Hrs.) Intended for students in the scientific courses. Prerequisites: Courses 1, 2, 3 and 4.
First semester; M. W. F., 11:00; Professor TRUSCOTT, 18 W.

22. **Scientific German.** (3 Hrs.) Continuation of Course 19.
Second semester; M. W. F., 11:00; Professor TRUSCOTT, 18 W.

24. **Heine.** (3 Hrs.) Readings from his prose and poetry. For students who have had the first two years of German. The grade of work is the same as in German 5. (Omitted in 1921-22).
First semester; M. W. F., 8:00; Professor TRUSCOTT, 18 W.

GREEK.

Professor BISHOP.

1. **Elementary Greek.** (5 Hrs.)
First semester; 11:00; 23 W.

2. **Elementary Greek.** (5 Hrs.) Continuation of Course 1.
Second semester; 11:00; 23 W.

3. **Xenophon's Anabasis.** (4 Hrs.)
First semester; M. T. Th. F., 10:00; 23 W.

4. **Selections from Lucian; Homer's Odyssey.** (4 Hrs.)
Second semester; M. T. Th. F., 10:00, 23 W.

7. **Plato's Apology, Krito, and Euthyphro.** (3 Hrs.)
First semester; M. W. F., 9:00; 23 W.

8. **Demosthenes On the Crown.** (3 Hrs.)
Second semester; M. W. F., 9:00; 23 W.

11. **Thucydides.** (3 Hrs.) (Omitted 1921-22).
First semester; M. W. F., 9:00; 23 W.

14. **Euripides' Ion.** (3 Hrs.) Open to seniors and graduate students. (Omitted 1921-22).
Second semester; M. W. F., 9:00; 23 W.

17. **The New Testament in Greek.** (3 Hrs.) Selected portions of the Gospels.
Second semester; M. W. F., 2:00; 23 W.

18. **The New Testament in Greek.** (3 Hrs.) Selected portions of the Acts and the Epistles.
First semester; M. W. F., 3:00; 23 W.

26. Greek Archaeology. (2 Hrs.)
First semester; T. Th., 3:00; 23 W.

20. Mythology. (2 Hrs.)
Second semester; T. Th., 3:00; 23 W.

15. Greek Literature in Translation. (2 Hrs.) Homer's Iliad or Odyssey.
First seemster; T. Th., 9:00; 23 W.

21. Greek Literature in Translation. (2 Hrs.) Tragedies of Euripides or of Sophocles.
Second semester; T. Th., 9:00; 23 W.

19. Comparative Philology. (2 Hrs.) A general introduction to the subject of comparative philology. Prerequisite: Credit for at least ten hours' college work in each of two foreign languages.
First semester; T. Th., 2:00; 23 W.

22. Comparative Philology of the Aryan Family. (2 Hrs.) A continuation of Course 19 which is prerequisite.
Second semester; T. Th., 2:00; 23 W.

HISTORY AND POLITICAL SCIENCE.

Professor CALLAHAN, Professor CHITWOOD, Professor AMBLER, and Assistant Professor HIGBY.

The work offered in this department includes: (1) Continental European History; (2) English History; (3) American History; and (4) Political Science.

Instruction is given by lectures, text-book work, assigned collateral readings; preparation of papers, syllabi, and maps; special reports, recitations, and informal conferences.

Students are encouraged to observe and to read contemporary history and politics.

An afternoon hour is designated for conference and for direction of library work.

History majors before their graduation are required to complete 25 hours in their major subject, including a seminar course, and to complete at least 6 hours in economics and sociology, at least 4 hours in a biological science (zoology or botany) and 3 hours in historical geology, and to meet all special requirements for the A. B. degree.

Continental European History.

Students who select continental European history as their principal study are advised to take French or German, in the early part of the University course.

Courses 10 and 11 are primarily for students who plan to choose a major in ancient languages. Most students (except pre-law students) should begin with Courses 12 and 14, which usually should be followed by Courses 17 and 18.

10. History of Ancient Civilization. (2 Hrs.) For freshmen. A brief survey of the civilization of the Orient and a more intensive study of the political and social life of the Greeks. (Omitted 1921-22).

First semester; T. Th., 11:00; Assistant Professor HIGBY, 43 W.

11. History of Rome. (3 Hrs.) For freshmen. The aim of this course is to trace the development of Roman institutions, character, and civilization, to explain the genius of the Roman people for organization and government, and to call attention to the contributions of Rome to modern civilization. (Omitted 1921-22).

First semester; M. W. F., 8:00; Professor CHITWOOD, 41 W.

12. Medieval History. (3 Hrs.) Primarily for freshmen. A survey of the history and institutions of Europe during the Middle Ages.

First semester; M. W. F., 8:00; and M. W. F., 9:00; Assistant Professor HIGBY, 43 W.

14. Modern European History. (3 Hrs.) Primarily for freshmen. A survey of the history and institutions of Europe during modern times. A continuation of History 12.

Second semester; M. W. F., 8:00; and M. W. F., 9:00; Assistant Professor HIGBY, 43 W.

45. Current European History. (1 Hr.) For conditioned freshmen. A study of current history and politics in Europe and the East.

First semester; T., 10:00; Professor CHITWOOD or Professor AMBLER, 41 W.

44. The French Revolution and the Napoleonic Era. (3 Hrs.) Primarily for juniors. A study of the principal institutions of the *Ancien Regime*, the events of the French revolution and the Napoleonic period and the temporary and permanent results of these events.

Second semester; T. Th., 11:00, and a third hour to be arranged; Assistant Professor HIGBY, 43 W.

13.† The Renaissance and the Reformation, 1300-1648. (3 Hrs.) Open to seniors and graduate students. The development of the forces of modern civilization; survey of the economic, political, and intellectual conditions at the close of the middle ages; the Renaissance in Italy and Germany; the Protestant revolution in the principal European states; the counter-reformation; and the religious wars to the treaty of Westphalia.

Second semester; T. Th. S., 8:00; Professor CHITWOOD, 41 W.

46.† Expansion of Europe, 1500-1914. (2 Hrs.) For seniors and graduates. An advanced course tracing the expansion of European people into Asia, Africa and America, and the effect of this expansion. (Omitted 1921-22).

Second semester; T. Th., 11:00; Assistant Professor HIGBY, 43 W.

15.† Continental Europe in the Nineteenth Century. (3 Hrs.) Open only to seniors and graduate students. An intensive study of political, economic, and social conditions in the more important states of Europe between 1815 and 1871. (Omitted 1921-22).

First semester; M. W. F., 11:00; Assistant Professor HIGBY, 43 W.

50.† Contemporary Europe, 1870-1921. (3 Hrs.) Open to seniors and graduate students. The political and social history of the leading European countries since 1870; events and conditions leading up to the Great War; reasons for entrance of the United States into the struggle; events of the war; the peace negotiations. Prerequisite: A knowledge of the outline facts of European history from 1815 to 1870. (Omitted 1921-22).

First semester; M. W. F., 11:00; Professor CHITWOOD, 41 W.

16. (G). Seminar in European History. (2 Hrs.) For graduates; open to seniors with the consent of the instructor.

First semester; T. Th. ,11:00; Professor HIGBY, 43 W.

English History.

Students will find it convenient to own Low and Pulling's Dictionary of English History and Gardiner's Atlas.

Courses 17 and 18 furnish a good foundation for the study of American history and law.

17. History of England to the Tudors. (3 Hrs.) Open to freshmen. A course in the general and institutional history of England. Special attention is given to political, economic and social life and development; the more important subjects in constitutional history are considered, showing how England learned to govern herself.

First semester; M. W. F., 10:00; and M. W. F., 11:00; Assistant Professor HIGBY, 43 W.

18. History of England from the Tudors to the Present Time. (3 Hrs.) A continuation of Course 17. The upbuilding of the British Empire; constitutional and religious struggles of the sixteenth and seventeenth centuries; economic and social changes; international relations; struggle for colonial and commercial supremacy; and formation of modern conditions and institutions.

Second semester; M. W. F., 10:00 and 11:00; Assistant Professor HIGBY, 43 W.

19. English Social and Industrial History. (3 Hrs.) Primarily for freshmen in home economics and agriculture. A survey of the facts of social and industrial evolution and their relation to political history and the interpretation of present conditions; a study of the enlargement of English life and the growth of English institutions.

First semester; M. W. F., 9:00; M. W. F., 11:00; Professor AMBLER. 46 W.

20. (G). English Historical and Practical Politics: English Constitutional Law and History. (2 Hrs.) A seminar course arranged especially for advanced students in history who desire a suitable preparation for courses in American government and law. Prerequisite: a general knowledge of English history and courses 17 (or 19), and 18. (Omitted 1921-22).

First semester; T. Th., 11:00; Assistant Professor HIGBY, 46 W.

American History.

All students of American history should have Channing and Hart's Guide, and Shepherd's Historical Atlas.

7. **History of The United States to 1840.** (2 Hrs.) A general survey course offered only at extension centers.

First semester; Professor AMBLER.

8. **History of The United States Since 1840.** (2 Hrs.) A general survey course offered only at extension centers. Continuation of Course 7.

Second semester; Professor AMBLER.

29. **American Social and Economic History.** (3 Hrs.) Primarily for freshmen in agriculture and home economics. This course furnishes a proper basis for college courses in American history and economics. Not open to seniors or to students who have had History 22 or 23.

Second semester; M. W. F., 10:00, and M. W. F., 11:00; Professor CHITWOOD, 46 W.

32. **History of West Virginia.** (1 Hr.) For freshmen or sophomores. A general course in social, industrial, and political development. Considerable attention is paid to railroad development and the growth of towns.

First seemster; Th., 10:00; Professor CALLAHAN, 20 L.

21. **American Colonial History, 1492-1776.** (2 Hrs.) Primarily for freshmen. European back-ground; discovery and settlement; growth of the English colonies; the Anglo-French colonial conflict; adaptation of European civilization to American conditions and development of new institutions; relation of the colonies to England; and the separation. (Omitted 1921-22).

First semester; T. Th., 8:00; Professor CHITWOOD, 41 W.

22. **The Formation of the Union: American Political History, 1776-1829.** (3 Hrs.) Primarily for sophomores, but open to unconditioned, "pre-law" freshmen who also have History 17. Special attention is given to political and constitutional development and to international relations, but economic and social conditions are also treated.

First semester; M. W. F., 9:00; Professor CALLAHAN, or Professor CHITWOOD, 20 L.

NOTE—Courses 22 and 23 should be taken in regular order. Students who can take only one course should register for Course 22.

23. Division and Reunion: American Political History Since 1829. (3 Hrs.) A continuation of Course 22. Primarily for sophomores but open to unconditioned, "pre-law" freshmen who also have History 17 or History 18.

Second semester; M. W. F., 9:00; Professor CHITWOOD, 41 W., (or Professor CALLAHAN, 20 L.)

24. Reconstruction and Later American History. (3 Hrs.) Primarily for juniors who have had credit for courses 22 and 23. A study of the period after 1872. with emphasis upon American political and economic conditions, problems, and readjustments. Considerable attention is given to conditions in the southern states after 1865, and the problems and conditions of reconstruction.

Second semester; M. W. F., 11:00; Professor AMBLER, 46 W.

51. The Trans-Alleghany Frontier. (2 Hrs.) For sophomores and juniors who have had one year in college history. A study in sectionalism; westward expansion; the origin of and proposals for new commonwealths; problems of transportation; and the evolution of those institutions and ideals that led to the formation of West Virginia.

First semester; T. Th., 9:00; Professor AMBLER, 43 W.

27. Development of the West. (2 Hrs.) For juniors, or other students who have had college courses in American history. The causes, problems and results of the westward advance. Early sectionalism; origin of new commonwealths; problems of transportation; geographic influences; evolution of frontier institutions and ideals; relation to national politics and influence on national development. (Omitted 1921-22).

Second semester; T. Th., 9:00; Professor CALLAHAN, 20 L.

25. (G). American Expansion Policy. (2 Hrs.) For graduate students.

Hours to be arranged; Professor CALLAHAN.

26. History of American Diplomacy and Foreign Policy, 1776-1920. (2 Hrs.) Open to juniors and seniors who have credit for History 22 and 23.

Second semester; T. Th., 10:00; Professor CALLAHAN, 20 L.

31. Latin-American History. (2 Hrs.) Primarily for seniors, but open to juniors whose major is history. The chief factors and phases of the development of the Latin-American countries from the era of settlement to the present time, with emphasis upon their recent diplomatic relations (especially inter-American). Effort will be made to understand the problems now before the Latin-American states. (A knowledge of Spanish will be useful in this course).

Second semester; T. Th., 9:00; Professor CALLAHAN, 20 L.

30.† The American Revolution and the Making of the Constitution. (2 Hrs.)

First semester; T. Th., 10:00; Professor AMBLER, 43 W.

33. (Education 33). The Teaching of History and Civics. (2 Hrs.) For juniors and seniors preparing to teach in secondary schools. Lectures and text-book study supplemented by readings in current history publications especially the *Historical Outlook;* a study of bibliography, syllabi, texts, notetaking methods, devices, and proposed changes in history and civics curricula.

Second semester; T. Th., 4:00; Professor AMBLER, 43 W.

52. The Ante-Bellum South. (2 Hrs.) For seniors and graduates who have at least one year of college credit in American history. A study of economic, social, and political life of the old South with special reference to its dependence upon slave labor, staple crops, and free trade.

First semester; hours to be arranged; Mr. WINTER, 33 L.

53. Problems of the Civil War Period (1850-72). (3 Hrs.) For juniors and seniors.

Second semester; M. W. F., 9:00; Professor CALLAHAN, 20 L.

55. Anglo-American Diplomatic Relations. (2 Hrs.) For juniors and seniors who have had college courses in American political history. A study of Anglo-American contacts and conflicts in foreign policies, with special emphasis upon relations of United States with British America.

First semester; T. Th., 11:00; Professor CALLAHAN, 20 L.

56. American Relations With Latin America. (2 Hrs.) For juniors and seniors who have had college courses in American political history. A survey of commercial and diplomatic relations and recent inter-American economic and social problems, the Monroe Doctrine, Pan-Americanism and other problems of international policy.

Second semester; T. Th., 11:00; Professor CALLAHAN, 20 L.

64.† Special American Diplomatic Problems. (2 Hrs.) Primarily for history majors, seniors and graduates, whose previous credits include History 22, 23 and 26. A specialized study of selected topics, with practice in the use of available documentary materials.

Second semester; T. Th., 2:00; Professor CALLAHAN, 20 L.

34. (G.) Seminar. (2 Hrs.) Methods of historical research, construction, and interpretation. Theses in American history are prepared.

Semester and hours to be arranged; Professor CALLAHAN, 22 L.

Historical Conference.

First and second semesters; 3:00; Professor Callahan, 22 L.

The attention of students taking American History is invited to the announcements of the Bryan prize and the Tax Commission prize on page 50 of the University Cataolgue.

Political Science.

In all these courses, students should have a clear knowledge of the outlines of general history and especially of modern political history.

9. Political Parties. (3 Hrs.) For sophomores. Development of political parties in the United States; party platforms; direct primaries and other nominating systems; party machinery and campaign methods; ballot and election laws; the initiative, referendum, and recall; offered with a view to securing greater interest and more intelligent activity on the part of college men and women in political matters.

Second semester; M. W. F., 9:00; Professor AMBLER, 46 W.

35. American Practical Politics: Government at Work. (2 Hrs.) A practical study of the actual workings of the government and politics of the United States, both state and national. Special attention is given to the realities of government and institutions and to the personal interest and personal action which underlie constitutions and statues. Open to senior students who have familiar knowledge of American political history as covered by Courses 22 and 23.

First semester; T. Th., 9:00; Professor CALLAHAN, 20 L.

36.† European Historical and Practical Politics. (2 Hrs.) A study of the development and present day working of the political institutions and parties of the principal states of continental Europe. Open to advanced students who have had History 14 or its equivalent. (Omitted 1921-22).

Second semester; T. Th., 11:00; Assistant Professor HIGBY, 43 W.

37. Local and State Government. (2 Hrs.) Primarily for sophomores who do not major in history. An introductory study in government with emphasis upon local and state institutions and problems; citizen and community activities of West Virginia will be used as an avenue of approach for a study of the larger problems of municipal, county, and state government; a study with a view to training for citizenship.

First semester; T. Th., 4:00; Professor AMBLER, 43 W.

38. Current Problems in Politics. (1 Hr.)

Second semester; S., 9:00.

39.† **Political Theories.** (2 Hrs.) For seniors and graduates. A brief survey of the origin, nature, forms, and functions of the state as described in the writings of Aristotle, Plato, Machiavelli, Hobbs, Locke, Montesquieu, and others; emphasis will be placed upon the more modern period, particularly on the contributions by America. (Omitted in 1921-22). Professor AMBLER.

40. **Municipal Government.** (3 Hrs.) For sophomores and juniors. A study of the growth of the cities of the United States; evolution in the form of city government; city charters; relations of city, county, and state; municipal elections, the initiative, referendum, and recall; the mayor-council, commission and city manager plans of government; city planning and utilities.

Second semester; M. W. F., 8:00; Professor AMBLER, 43 W.

42.† **Anglo-American Historical Jurisprudence.** (2 Hrs.) Open to seniors and graduate students. A study of the sources and growth of law and the development of legal institutions in connection with social and political history. Adapted especially to advanced students of history who are preparing for the study of law. (Omitted 1921-22).

First semester; T. Th., 9:00; Professor CALLAHAN, 20 L.

43.† **International Law and Practice of Diplomacy.** (2 Hrs.) Open to seniors and graduate students with a knowledge of modern history, especially courses 22 and 23. (Omitted in 1921-22.

Second semester; T. Th., 9:00; Professor CALLAHAN, 20 L.

HOME ECONOMICS.

Courses in this subject are offered both in the College of Arts and Sciences and in the College of Agriculture. For a detailed description of these courses see the announcements of the College of Agriculture.

ITALIAN.

For courses in this subject see Romance Languages, page 140.

HORTICULTURE.

Credit will be given in the College of Arts and Sciences for Courses 2, 3 and 13 in horticulture offered in the College of Agriculture. For detailed announcements of these courses see the announcements of the College of Agriculture.

LATIN.

Professor CANNADAY and Professor HARE.

Courses 1, 2, 3 and 4 may be offered for entrance or taken as college work. Students offering two units for entrance will begin with 1, those offering three units will begin with 3, and those offering four units with 5. Additional courses are required of those making Latin their major, depending on the amount offered for entrance. Students making Latin their major will also take History 10 and 11. See page 112.

21. Elementary Latin. (5 Hrs.) Intended primarily for students who are preparing for law or medicine. An intensive course covering in one semester what is usually called First Year Latin. Much written work is required in addition to class-room instruction.

First semester; 8:00; Professor CANNADAY, 29 W.

22. Elementary Latin. (5 Hrs.) Continuation of 21. Text read will be Caesar or an equivalent. The course also calls for written work based upon the text read.

Second semester; 8:00; Professor CANNADAY, 29 W.

1. Cicero. (4 Hrs. or if offered to remove entrance conditions, one-half unit.) Primarily for freshmen offering two units for entrance. The first three orations against Catiline are read. Prerequisite: two units of high school Latin.

First semester; 8:00; Professor HARE, 12 W.

2. Cicero. (Credit same as in Course 1.) Continuation of Course 1. The orations read are the fourth oration against Catiline,, the oration of Archias and the Manilian law. Prerequisite: Latin 1.

Second semester; 8:00; Professor HARE, 12 W.

3. Virgil. (Credit same as in Course 1.) Primarily for freshmen offering three units for entrance. The first three books of the Aeneid are read. Composition once a week. Prerequisite: Latin 2.

First semester; M. T. Th. F., 9:00; Professor HARE, 12 W.

4. Virgil. (Credit same as in Course 1.) Continuation of Course 3. Books four, five, and six are read. Prerequisite: Latin 3.

Second semester; M. T. Th. F., 9:00; Professor HARE, 12 W.

5. Cicero—De Senectute and De Amicitia; Livy XXI. (5 Hrs.) Open to students who have had the preceding or four units of high school Latin.

First semester; 9:00; Professor CANNADAY, 18 W.

6. Livy XXII and Horace—Odes and Epodes. (5 Hrs.) Continuation of Course 5. Particular attention to the meters of Horace, his style and his philosophy of life.

Second semester; 9:00; Professor Cannady, 18 W.

12. Ovid—Metamorphoses. (3 Hrs.) A course in rapid reading, with a discussion of the meaning and sources of the myths read. Primarily for sophomores.

First semester; M. W. F., 11:00; Professor Cannaday, 18 W.

8. Comedy. (3 Hrs.) Five or six plays of Plautus and Terence Study of characters, development of plot, etc. Primarily for sophomores.

Second semester; M. W. F., 11:00; Professor Cannaday, 18 W.

9. Teachers' Course in Latin. (2 Hrs.) A discussion of Latin in its relation to modern languages, questions of style, methods of translation and other matters than concern the prospective teacher of Latin.

First semester; T. Th., 11:00; Professor Cannaday, 18 W.

10. Teachers' Course in Latin. (2 Hrs.) Continuation of 9.

Second semester; T. Th., 11:00; Professor Cannaday, 18 W.

11. Horace—Satires and Epistles. (4 Hrs.) For juniors and seniors. Selected satires and epistles are read, with attention to Horace's personal life.

First semester; M. T. Th. F., 10:00; Professor Cannaday, 18 W.

17. Roman Life and Customs. (4 Hrs.) The basis for this study will be selections from the letters of Cicero and Pliny and the satires of Juvenal. For juniors and seniors. A study of the Romans in their homes, their intercourse in business and professional life.

Second semester; hours to be arranged; Professor Cannaday, 18 W.

18.† Outlines of Latin Literature. (3 Hrs.) Open to seniors and graduate students. The representative writers of the different periods will be discussed in some detail and a considerable amount of parallel reading will be required.

First semester; hours to be arranged; Professor Cannaday, 18 W.

LAW.

Candidates for the regular A.B. degree may elect not more than fifteen hours of law. Candidates in the combined A.B. and LL.B. course may count the entire first-year work in law for credit toward the A.B. degree.

LIBRARY METHODS.

DR. ARNETT.

1. Library Methods. (2 Hrs.) An introductory course for the purpose of acquainting students with the University Library and the practice of library methods; instruction in the use of catalogues, indexes, and general reference books, and in the selection and purchase of books.

First semester; T. Th., 8:00; L.

2. Library Methods. (2 Hrs.) Theory and practice of library methods, including elementary cataloguing, classification, binding and repair of books, loan desk, etc.

Second semester; T. Th., 8:00; L.

3. Advanced Study and Practice in Library Methods. (2 Hrs.) Intended for those specializing for library work. Hours to be arranged.

MACHINE DESIGN AND CONSTRUCTION.

Credit not to exceed fifteen hours in all will be given in the College of Arts and Sciences for Courses 20, 21, 22, 23, 24, 25, 28 and 30 in mechanical drawing, Course 26 in descriptive geometry, Courses 27 and 9 in mechanism and machinery and Courses 46 and 47 in industrial management offered in the College of Engineering. For detailed announcements of these courses see the announcements of that college.

MATHEMATICS.

Professors EIESLAND and HODGSON, Assistant Professor ALLEN, Miss FISHER, Mr. MONTGOMERY, Miss TORREY.

Courses 9, 10, 11 and 12 are required of those who choose mathematics as a major subject. Courses 9, 10, and 11 are recommended for those whose major is physics.

2. Solid Geometry. (3 Hrs.) (If offered to remove entrance condition one half unit).

First semester; 10:00; Miss TORREY; 219 M. H.

Second semester; 10:00; Miss FISHER; 225 M. H.

36. Advanced Algebra and Trigonometry. (5 Hrs.)

Second semester; 8:00, 10:00, and 11:00; Miss FISHER, Mr. MONTGOMERY and Miss TORREY.

34. Advanced Algebra and Trigonometry. (5 Hrs.) Primarily for engineering students. A short review of topics in elementary algebra; radicals and imaginaries. Theory of quadratic equations with applications. Graphic algebra, logarithms, arithmetic and geometric series, the binomial theorem, theory of equations and Horner's method of solving numerical equations. Definitions and fundamental properties of the trigonometric functions and solution of the right triangle.

First and second semester; Sections 8:00, 9:00, 10:00, and 11:00; Professors EIESLAND and HODGSON, Assistant Professor ALLEN, Miss FISHER, Mr. MONTGOMERY, Miss TORREY, M. H.

35. Trigonometry and Analytic Geometry. (5 Hrs.) Primarily for engineering students. A continuation of course 34. Solution of the general plane and spherical triangles with application to the astronomical triangle; trigonometric equations; DeMoivre's Theorem; certain topics in advanced algebra with introduction to infinitesimal calculus; derivatives of algebraic functions; straight line and conic sections.

Second semester; sections at 8:00, 9:00, 10:00 and 11:00; Professors EIESLAND and HODGSON, Assistant Professor ALLEN, Mr. MONTGOMERY, Miss FISHER and Miss TORREY; M. H.

3. Advanced Algebra. (3 Hrs.) A shorter course covering the same topics as Course 34. Primarily for students in the College of Arts and Sciences.

First and second semesters; M. W. F., 8:00 and 11:00; Assistant Professor ALLEN and Miss TORREY; 219 and 205 M. H.

4. Plane Trigonometry. (2 Hrs.) Primarily for students in the College of Arts and Sciences.

First and second semesters; T. Th., 8:00 and 11:00; Assistant Professor ALLEN and Miss TORREY; 219 and 225 M. H.

5. Analytic Geometry. (3 Hrs.) Prerequisites: Courses 3 and 4 or Course 34.

First semester; 9:00 and 11:00; Assistant Professor ALLEN and Miss TORREY; 229 and 225 M. H.

6. Trigonometry and Topics in Advanced Algebra. (3 Hrs.) A continuation of courses 3 and 4, including topics in plane trigonometry and advanced algebra, and also applications of spherical trigonometry to elementary problems in astronomy.

First and second semesters; M. W. F., 10:00; Professor HODGSON; 225 M. H.

7. Differential and Integral Calculus. (3 Hrs.) Prerequisites: Courses 3, 4, 5 and 6, or 34 and 35.

First semester; M. W. F., Conference hours, T. Th., 8:00 and 11:00; Professors EIESLAND and HODGSON, Assistant Professor ALLEN; 225 and 219 M. H.

8. Differential and Integral Calculus. (3 Hrs.) A continuation of Course 7.

Second semester; M. W. F., Conference hours, T. Th., 8:00 and 11:00; Professors EIESLAND and HODGSON, and Assistant Professor ALLEN; 225 and 219 M. H.

NOTE—In courses 7 and 8, the part of each denoted as "conference," two hours weekly, is not intended to increase the amount of prepared work. It really amounts to two hours weekly of study in preparation for the regular class recitation with the help and guidance of the teacher. Attendance at these conferences is required.

9. Differential Equations. (3 Hrs.) This course is especially recommended to those who expect to take up advanced work such as physical chemistry, mathematical physics and theory of electricity. Prerequisites: Courses 7 and 8 or 13 and 14.

First and second semesters; M. W. F., 10:00; Professor EISELAND, M. H.

10.† Theory of Determinants and Analytic Geometry of Space. (2 Hrs.) Open to seniors and graduate students. Prerequisites: Courses 5, 7, and 8.

First semester; M. W., 3:00; Professor HODGSON; 225 M. H.

11. Advanced Topics in Calculus. (2 Hrs.)
Second semester; T. Th., 3:00; Professor EISELAND, 225 M. H.

12.† Projective Geometry. (3 Hrs.) Open to seniors and graduate students.
Second semester; M. W. F., 4:00; Professor HODGSON; 225 M. H.

13. Analytic Geometry and Calculus. (5 Hrs.) Prerequisites: Courses 3 and 4, or Course 36.
First semester; 8:00, 10:00 and 11:00; Miss FISHER, Mr. MONTGOMERY, Miss TORREY, 225, 219, 205 M. H.

14. Differential and Integral Calculus. (5 Hrs.) Continuation of Course 13.
Second semester; 8:00, 10:00 and 11:00; Miss FISHER, Mr. MONTGOMERY, Miss TORREY; 225, 219, 205 M. H.

NOTE—Courses 13 and 14, which are intended for science as well as engineering students are equivalent to Courses 5, 7, and 8.

Undergraduate Courses in Applied Mathematics.

22. Mathematics for Agriculture and General Science. (3 Hrs.) Primarily for students of agriculture and biological science. The course includes such topics as the following: review of elementary algebra, graphic methods, logarithms, trigonometry and land surveying, calculation of errors, annuities, laws of heredity, probability. Prerequisite: One year's work in elementary algebra.
First semester; hours to be arranged; Professor HODGSON, 9 W.

23. The Mathematical Theory of Investment. (2 Hrs.) Primarily for students of economics and sociology. The following are among the topics treated: theory of series and logarithms, interest and annuities, amortization, valuation of bonds, sinking funds and depreciation, theory of probability, annuities, life insurance. Prerequisites: a fair knowledge of algebra through quadratics.
Semester and hours to be arranged; Professor EIESLAND, 8 W.

Astronomy.

1. Descriptive Astronomy. (3 Hrs.) Opportunity is given to those who wish to do sextant work or work with a portable transit.
Second semester; hours to be arranged; Professor EIESLAND, 11 M.

Courses for Graduate Students.

15. (G) Introduction to Lie's Theory of Continuous Groups with Application to Differential Equations. (3 Hrs.) Prerequisite Course 9, 10, and 12.

First semester; hours to be arranged; Professor EIESLAND.

55. (G) Introduction to Lie's Theory of Continuous Groups with Application to Differential Equations. (3 Hrs.) Continuation of Course 15.

Second semester; hours to be arranged; Professor EIESLAND.

16. (G) Higher Plane Curves with Special Reference to Curves of the Third and the Fourth Order. (2 Hrs.) Open only to graduate students.

First semester; hours to be arranged; Professor HODGSON.

56. (G) Higher Plane Curves with Special Reference to Curves of the Third and the Fourth Order. (2 Hrs.) Continuation of Course 16.

Second semester; hours to be arranged; Professor HODGSON.

17. (G) Introduction to the Theory of Functions of a Complex Variable. (Hrs.) Open only to graduate students.

First semester; hours to be arranged; Professor EIESLAND.

57. (G) Introduction to the Theory of Functions of a Complex Variable. (Hrs.) Continuation of Course 17.

Second semester; hours to be arranged; Professor EIESLAND.

18. (G) Higher Algebra and Introduction to the Theory of Invariants. (Hrs.) Open only to graduate students.

First semester; hours to be arranged; Professor HODGSON.

58. (G) Higher Algebra and Introduction to the Theory of Invariants. Continuation of Course 18.

Second semester; hours to be arranged; Professor HODGSON.

19. (G) Differential Geometry and Theory of Surfaces. (3 Hrs.)

First semester; hours to be arranged; Professor EIESLAND.

59 (G) Differential Geometry and Theory of Surfaces. (3 Hrs.) Continuation of Course 19.

Second semester; hours to be arranged; Professor EIESLAND.

20. (G) Theory of Numbers. (2 Hrs.) Open only to graduate students. An elementary course.

First semester; hours to be arranged; Professor HODGSON.

60. (G) Theory of Numbers. (2 Hrs.) Continuation of Course 20.

Second semester; hours to be arranged; Professor HODGSON.

21. (G) Differential Equations. (Hrs.) An advanced course with applications; the algebra of vectors. Prerequisites: Courses 7, 8 and 9.

First semester; hours to be arranged; Professor EIESLAND.

61. (G) Differential Equations. (Hrs.) Continuation of Course 21.

Second semester; hours to be arranged; Professor EIESLAND.

24. (G) Theory of Equations with Introduction to the Galois Theory. (Hrs.)

First semester; hours to be arranged; Assistant Professor ALLEN.

64. (G) Theory of Equations with Introduction to the Galois Theory. (Hrs.) Continuation of Course 24.

Second semester; hours to be arranged; Assistant Professor ALLEN.

25. (G) Enumerative Geometry. (Hrs.)

First semester; hours to be arranged; Assistant Professor ALLEN.

65 (G) Enumerative Geometry. (Hrs.)

Second semester; hours to be arranged; Assistant Professor ALLEN.

MINING ENGINEERING.

Credit will be given in the College of Arts and Sciences for Courses 85 and 96 in metallurgy offered in the College of Engineering. For detailed announcements of these courses see the announcements of that college.

MUSIC.

Credit not to exceed fifteen hours in all will be given in the College of Arts and Sciences for Courses 1, 2, 3 and 4 in the theory of music and Courses 5 and 6 in the history of music offered in the School of Music. For detailed announcements of these courses see the announcements of the School of Music.

PHILOSOPHY.

The work of the Department of Philosophy is intended to afford a means of culture and to serve as an organizing factor in general education. Courses 1, 5, 6, 10, and 15 are intended for beginners who have had no previous work in the subject. The remaining courses are of a more advanced character, and are open only to those who have completed the prerequisite elementary courses as indicated. No courses in the department are open to freshmen.

1. Introduction to Psychology. (3 Hrs.) In this course much attention is given to the study of the nervous system, the mental states, and the development of character and the personality. The student is introduced to the underlying debatable principles and to the problems yet to be solved. Prerequisites: Zoology 1 and 2. Two recitations and one two hour laboratory period each week.

Students who have done the text-book work of Course 1 without the accompanying laboratory exercises, may enroll in Course 1 for the laboratory work alone and will receive one hour credit on its completion.

First semester; T. Th., 11:00. Laboratory hours as announced in semester schedule; Mr. WINTER, 33 L.

Second semester; T. Th., 9:00. Laboratory hours as announced in semester schedule; Mr. WINTER, 33 L.

13. Introduction to Psychology. (3 Hrs.) A continuation of course 1. The student is given some opportunity to follow his individual interests.

First semester; hours to be arranged; Mr. WINTER, 33 L.

Second semester; T. Th., 10:00; laboratory hours as announced in semester schedule; Mr. WINTER, 33 L.

6. Human Nature. (3 Hrs.) A general introductory course dealing with man's social development and with the career of reason in esthetic and religious experiences and in moral values. Not open to seniors, or to those who have credit for course 16.

First semester; M. W. F., 9:00; Professor CANTRALL, 33 L.

15. Philosophical Introduction. (3 Hrs.) This course introduces beginners to the point of view, the scope and the significance of philosophy. One historical paper and one paper dealing with a philosophical problem are required during the course. Prerequisite: Course 6.

Second semester; M. W. F., 9:00; Professor CANTRALL, 33 L.

5. Elementary Ethics. (3 Hrs.) A study of the principles and problems of morality. While this course is prerequisite to the more advanced courses in ethics, it may also be elected by those who only

wish a general course in the subject. One or more written papers are required during the semester.

First semester; T. Th., 10:00; F., 2:00; Professor CANTRALL, 33 L.

10. Elementary Course in Religion. (3 Hrs.) A study of the significance of religious teaching. The course is prerequisite to the more advanced courses in religion but is open also to those who wish to elect one general course in the subject. One written paper is required during the semester.

Second semester; T. Th., 10:00; F., 2:00; Professor CANTRALL, 33 L.

16. Social Psychology. (3 Hrs.) A survey of the characteristic instinctive emotional and volitional tendencies and reactions of man in the process of his moralization in society. Of interest to students planning work in the social and political sciences. Prerequisite: Course 1.

Second semester; M. W. F., 10:00; Professor CANTRALL, 33 L.

17. Social Psychology. (3 Hrs.) A continuation of course 16. A study of the application of the principles of social psychology to the interpretation of national life and character.

First semester; M. W. F., 10:00; Professor CANTRALL, 33 L.

18. Principles of Psychology. (3 Hrs.) This course continues and supplements the courses in the introduction to psychology. The principles of psychology as set forth in two or more of the standard text books on the subject are considered. Prerequisites: Courses 1, 13, and 15. Alternates with course 83.

First semester; T. Th., 11:00; W., 2:00; Professor CANTRALL, 33 L.

19. Logic. (3 Hrs.) A study of the nature proof and the laws of evidence. Practice in logical analysis and the use of the syllogism. Recitations, written exercises, and problems prepared outside class. Prerequisites: Courses 1 and 15.

First semester M.; 2:00; T. Th., 9:00; Professor CANTRALL, 33 L.

22. Logic. (3 Hrs.) Continuation of course 2 which is prerequisite. A supplemental text on the principles of science is used in this course.

Second semester; M., 2:00; T. Th., 9:00; Professor CANTRALL, 33 L.

23. Introduction to Philosophy. (3 Hrs.) A study of the problems of philosophy in the light of the traditional systems with special references to neo-realism. Prerequisites: Courses 1, 2, 15, and 22. (Omitted 1921-22).

Professor CANTRALL, 33 L.

7. History of Philosophy. (3 Hrs.) A survey of the principal philosophical systems in their historical setting, together with their social, political, moral and religious implications. Prerequisites: Courses 1 and 15. (Omitted 1921-22).

First semester; Professor CANTRALL, 33 L.

8. History of Philosophy. (3 Hrs.) A continuation of course 7 which is prerequisite. Special attention to some period or subject. (Omitted 1921-22).

Second semester; Professor CANTRALL, 33 L.

31. Ethics. (3 Hrs.) A consideration of ethical theories and values, with special attention to their moral imperative and to the relation of morality and religion. Prerequisites: Courses 1, 5 and 15. Alternating with course 11. (Omitted 1921-22).

First semester; M. W. F., 11:00; Professor CANTRALL, 33 L.

32. Advanced Ethics. (3 Hrs.) A continuation of course 31 which is prerequisite. The nature and plan of the course will be adapted to the needs of the class. Prerequisites: Courses 1, 5 and 15. Alternating with course 72. (Omitted 1921-22).

Second semester; M. W. F., 11:00; Professor CANTRALL, 33 L.

41. Introduction to Philosophy. (3 Hrs.) A survey of the issues arising from the inquiry as to ultimate reality, involving life and world relations. An introduction to systematic philosophy. Study of text book, reference readings, and preparation of a written paper. Prerequisites: Courses 1 and 15. (Omitted 1921-22).

11. Philosophy of Religion. (3 Hrs.) The basis of religion in a rationally interpreted universe. Study of a text book, reference reading and preparations to written work. Prerequisites: Courses 1, 10 and 15. Alternating with course 31.

First semester; M. W. F., 11:00; Professor CANTRALL, 33 L.

72. Philosophy of Religion. (3 Hrs.) Continuation of course 11 which is prerequisite. Alternating with course 32.

Second semester; M. W. F., 11:00; Professor CANTRALL, 33 L.

83. Problems of Philosophy. (3 Hrs.) The study of one or more problems of philosophy. Lectures, text book and reference reading, and preparation of one comprehensive written paper. Preerequisites: Courses 1 and 15. Alternates with course 18.

First semester; T. Th., 11:00; W., 2:00; Professor CANTRALL, 33 L.

84. Problems of Philosophy. (3 Hrs.) Continuation of Course 83 which is prerequisite. Alternates with course 19.

Second semester; T. Th., 11:00; W., 2:00; Professor CANTRALL, 33 L.

PHYSICS.

Professor WAGGONER, Associate Professor MOLBY, Assistant Professor GEORGE, Mr. FORD and Mr. LAZZELL.

NOTE.—For description of the physical laboratories see page 23 of the University Catalogue.

The various courses offered in physics are designed to meet the needs of the students in the Colleges of Arts and Sciences, Agriculture, and Engineering, and in the School of Medicine. For students who expect to teach physics the laboratory offers facilities for individual laboratory work and the construction of apparatus.

1. **Introductory Physics.** (3 Hrs.) Primarily for freshmen. Required for students in the Colleges of Agriculture, and the School of Medicine. The course is based on Kimball's College Physics and presents the fundamental principles of physics and their application to every day life. See Course 2 below. Prerequisite: plane geometry.

First semester; lectures; M. W., 8:00; Professor WAGGONER, 14 M; Quiz; various sections as announced in the semester schedule.

2. **Introductory Physical Laboratory.** (1 Hr.) This course accompanies, and is required of all students who take Courses 1 and 6. The course consists of individual, quantitative determinations of the various physical constants, and occupies one laboratory period per week.

First semester; various sections as announced in the semester schedule; Associate Professor MOLBY and staff.

3. **Introductory Physics.** (3 Hrs.) A continuation of Course 1 which is a prerequisite. See Course 4 below.

Second semester; lectures; M. W., 8:00; Professor WAGGONER, 14 M.; Quiz; various sections as announced in the semester schedule.

4. **Introductory Physical Laboratory.** (1 Hr.) A continuation of Course 2, which is prerequisite.

Second semester; various sections as announced in semester schedschedule; Associate Professor MOLBY and staff.

6. **General Physics.** (4 Hrs.) Required of all candidates for engineering degrees, and recommended for all students in Arts and Sciences who elect physics from the science group. Not open to students who have credit for Course 1. The derivation of the mathematical statements of the laws of physics and their application to the solution of engineering problems. Prerequisites: trigonometry and analytic geometry. No student is permitted to take this course without its accompanying laboratory exercise, which is Course 2.

First semester; T. W. Th. F., 9:00; Professor WAGGONER and staff, 14 M.

8. General Physics. (4 Hrs.) A continuation of Course 6 which is prerequisite. Not open to students who have credit for Courses 1 and 3. No student is permitted to take this course without its accompanying laboratory exercise which is Course 4.

Second seemster; T. W. Th. F., 9:00; Professor WAGGONER and staff, 14 M.

9.† Light. (5 Hrs.) Lectures and laboratory work. Open to seniors and graduate students. This course is designed to meet the needs of students in general biology, chemistry and medicine. Prerequisites: Physics 1, 2, 3, 4 or 6, 2, 8, 4, and the trigonometry.

First semester; hours to be arranged; Associate Professor MOLBY, 4 M.

10. Electrical Measurements. (3 Hrs.) This course is designed for, and required of the candidates for the degree of B.S.M.E., and B.S.Chem.E. It consists of the study of photometry, magnetic properties of materials, the theory, calibration, and use of various electrical instruments. Prerequisites: Physics 1, 2, 3, 4 or 6, 2, 8, and integral calculus.

First semester; T. Th., 10:00; laboratory, W., 2:00-4:00; Professor WAGGONER, 14 M.

11.† Radio-Telegraphy and Radio-Telephony. (4 Hrs.) Open to seniors and graduate students. Elective for seniors in electrical engineering. A study of modern methods used in radio-transmission of intelligence. The department has a small installation for radio-telegraphy which is used as a basis for the laboratory study of various systems of transmission. Students are expected to spend one evening (8:00-11:00 p. m.) each week in the laboratory in addition to the regular required laboratory work. Prerequisites: Physics 10, or its equivalent.

Second semester; T. Th., 10:00; laboratory, W., 3:00-5:00; Professor WAGGONER, 14 M.

12. Photography. (2 Hrs.) Open to all students of the University. One lecture and one laboratory exercise per week. The simple theory of photography; making lantern slides, micro-photographs and portraits. Students will be expected to purchase the necessary supplies.

Second semester; lectures, Th., 4:00; laboratory,, hours to be arranged; Associate Professor MOLBY, 16 M.

16.† Theoretical Mechanics. (5 Hrs.) Lectures and laboratory work. Open to seniors and graduate students. Prerequisites: Physics 1, 2, 3, 4 or 6, 8, 2, 4, and integral calculus.

First semester; hours to be arranged; Assistant Professor GEORGE, 4 M.

18.† **Heat and Wave Motion.** (5 Hrs.) Lectures and laboratory work. Open to seniors and graduate students. Prerequisites: Physics 10 and integral calculus.

Second semester; hours to be arranged; Assistant Professor GEORGE, 4 M.

20.† **Electricity and Magnetism.** (5 Hrs.) Lectures and laboratory work. Open to seniors and graduate students. Prerequisites: Physics 10 and differential equations.

First semester; hours to be arranged; Professor WAGGONER, 14 M.

21.† **Electricity and Magnetism.** (5 Hrs.) A continuation of Course 20 which is a prerequisite.

Second semester; hours to be arranged; Professor WAGGONER, 14 M.

22.† **Physics Seminar.** (1 Hr.) Open to seniors and graduate students. A discussion of the modern researches in physics. Papers will be presented by various members of the staff as well as by the students. A reading knowledge of both French and German is highly desirable.

First semester; hours to be arranged; Professor WAGGONER, 14 M.

23.† **Physics Seminar.** (1 Hr.) A continuation of 22.

Second semester; hours to be arranged; Professor WAGGONER, 14 M.

Courses Open Only to Graduate Students.

30. (G) **Physical Optics.** (3 Hrs.)

First semester; hours to be arranged; Associate Professor MOLBY, 4 M.

31. (G) **Physical Optics.** (3 Hrs.)

Second semester; hours to be arranged; Associate Professor MOLBY, 4 M.

32. (G) **Kinetic Theory of Gases and Molecular Physics.** (3 Hrs.)

First semester; hours to be arranged; Assistant Professor GEORGE, 8 M.

33. (G) **Kinetic Theory of Gases and Molecular Physics.** (3 Hrs.) Continuation of Course 32.

Second semester; hours to be arranged; Assistant Professor GEORGE, 8 M.

34. (G) **The Electron Theory.** (3 Hrs.)

First semester; hours to be arranged; Assistant Professor GEORGE, 8 M.

35. (G) The Electron Theory. (3 Hrs.) Continuation of Course 34.

Second semester; hours to be arranged; Assistant Professor GEORGE, 8 M.

36. (G) Radio-Activity. (3 Hrs.)

First semester; hours to be arranged; Associate Professor MOLBY, 4 M.

37. (G) Radio-Activity. (3 Hrs.) Continuation of Course 36.

Second semester; hours to be arranged; Associate Professor MOLBY, 4 M.

38. (G) Conduction of Electricity Through Gases. (3 Hrs.)

First semester; hours to be arranged; Professor WAGGONER, 14 M.

39. (G) Conduction of Electricity Through Gases. (3 Hrs.) Continuation of Course 38.

Second semester; hours to be arranged; Professor WAGGONER, 14 M.

40. (G) Experimental Research. (Credit according to work done but not to exceed 10 hours in all). Required of all graduates for the Master of Arts degree with major in physics.

Both semesters; hours to be arranged; Professor WAGGONER, 14 M.

NOTE.—Not more than one of the purely graduate courses offered by any one instructor will be given in any one semester.

It is highly desirable that candidates for the master's degree should have a reading knowledge of both French and German.

DEPARTMENT OF PUBLIC SPEAKING.

Professor KAY and Miss STEADMAN.

Voice Training and Gesture.

3. General Course. (2 Hrs.) Training in the fundamentals of good elocution. Especially recommended for those who are handicapped by acquired faults of speech, such as weak, harsh, and incorrectly produced voices, indistinct enunciation, inaccurate articulation, incorrect pronunciation.

Either semester; T. Th., 8:00, 9:00; Miss STEADMAN, 20 M.

4. Declamation. (3 Hrs.) Short selections are committed from various types of literature and used as the basis of exercises for enriching the quality of the voice and increasing its range and power of expression. Gesture.

Either semester; M. W. F., 9:00; Miss STEADMAN, 20 M.

Original Address.

12. Effective Speaking. (3 Hrs.) Speech studied as a social force. The principles of psychology applied to the problems of the public speaker. The class is carried on an organized mass meeting under parliamentary rules. Each student presides in turn.

Either semester; M. W. F., 9:00; Professor KAY, 17 M.

13. The Occasional Address. (2 Hrs.) Speeches illustrating the best of modern eloquence are studied and analyzed for the acquirement of style. Practice in the composition and delivery of orations suited to formal occasions. After-dinner speaking. Prerequisite: Course 12.

First semester; T. Th., 9:00; Professor KAY, 17 M.

14. Argumentation. (2 Hrs.) The theory and practice of argumentative writing and speaking.

Either semester; T. Th., 10:00; Professor KAY, 17 M.

15. Debating. (2 Hrs.) The principles of argumentation applied to oral debating. Prerequisite: Course 14.

First semester; T. Th., 11:00.

Second semester; T. Th., 9:00.

10. Extempore Speaking. (3 Hrs.) Speaking from outlines. Practice in the rapid organization of ideas and in the selection of suitable words and illustrations to effect the desired end with the audience. Prerequisite: Course 12 or 14.

Either semester; M. W. F., 11:00; Professor KAY, 17 M.

11. Extempore and Impromptu Speaking. (2 Hrs.) Continuation of Course 10 which is preerequisite. Careful preparation demanded on assigned general subjects. A specific phase of the subject assigned for impromptu discussion, demanding self-command in the presence of the audience. It is recommended that Courses 10 and 11 be elected only by those who have had considerable previous training in careful writing and speaking.

Second semester; T. Th., 11:00; Professor KAY, 17 M.

Literary Interpretation and Dramatics.

21. The Art of Reading Aloud. (3 Hrs.) A detailed study of the various mental and emotional elements in literature both sacred and secular combined with constant practice in applying the correct principles of vocal interpretation. Prerequisites: Courses 3 and 4 or equivalents.

First semester; M. W. F., 11:00; Miss STEADMAN, 20 M.

22. The Reading of Dramatic Literature. (2 Hrs.) A continuation of Course 21, which is a prerequisite. Examples of the best classic and modern drama are made the basis of study and interpretation. Character study and impersonation.

Second semester; T. Th., 10:00; Miss STEADMAN, 17 M.

23. Actual Study of Classic Drama. (2 Hrs.) A detailed study of plot and character; costuming, make-up, lighting, staging, etc. Prerequisites: Cources 3 and 4 or equivalent.

First semester; T. Th., 10:00; Miss STEADMAN, 17 M.

24. Actional Study of Modern Drama. (3 Hrs.) Similar to Course 23, but using plays representing the best modern drama. Practice in coaching a short play. Prerequisites: Courses 3 and 4, or equivalents.

Second semester; M. W. F., 11:00; Miss STEADMAN, 17 M.

Extra Curriculum Speaking.

A credit of two hours may be earned each year for speaking done under the direction of the department outside the classroom. This provides academic credit for intercollegiate debating and participation in the work of the Dramatic Club when the head of the department thinks the work done merits credit.

RAILWAY AND HIGHWAY ENGINEERING.

Credit will be given in the College of Arts and Sciences for Courses 100 and 101 in land surveying offered in the College of Engineering. See the announcements of that college.

ROMANCE LANGUAGES AND LITERATURE.

Professor STATHERS, Professor DARBY, Assistant Professors PROVOST and SPIKER and Mr. BRUNETTI.

French.

1. **Elementary French.** (5 Hrs.) Primarily for freshmen. Grammar, reading and composition. Stress is laid on the pronoun and verb. Constant practice in pronunciation and oral understanding. Fraser and Squair's French Grammar.

First semester; section M. T. W. Th. F., at 8:00, 9:00, 10:00 and 11:00; Professor DARBY, and Assistant Professor PROVOST and Mr. BRUNETTTI.

2. **Modern French.** (5 Hrs.) Primarily for freshmen. A continuation of Course 1. Grammar, reading, composition and oral understanding. Fontaine's En France, Laurie's Memories d'un Collegien, Bruno's Le Tour de la France.

Second semester; section, M. T. Th. F., at 8:00, 9:00, 10:00, 11:00, Associate Professor DARBY, Assistant Professor PROVOST and Mr. BRUNETTI.

3. **Fiction of the Nineteenth Century.** (3 Hrs.) For freshmen and sophomores. Reading and study of representative works from Merimee, George Sand, Victor Hugo, Alphonse Daudet, Guy de Maupassant, Paul Margueritte, Pierre Loti, Anatole France.

First semester; first section, M. W. F.; second section, M. W. F., 11:00, Mr. BRUNETTI, 14 W.; third section, 9:00; Assistant Professor SPIKER; M. W. F., 4:00; Assistant Professor PROVOST, 19 W.

4. **Advanced Grammar and Composition.** (2 Hrs.) For freshmen and sophomores. Detailed study of the parts of speech and review of verbs. Composition and dictation based on matter illustrative of the work. Given in connection with Course 3.

First semester; first section, T. Th., 8:00; Assistant Professor PROVOST, 19 W.; second section, T. Th., 9:00; Assistant Professor SPIKER; third section, T. Th., 10:00; Professor DARBY, 14 W.

5. **France and the French.** (3 Hrs.) For freshmen and sophomores. Study of the country from a commercial and geographical standpoint; Parisian and provincial life; conversation in French on questions of popular interest; collateral reading and reports.

Second semester; first section, M. W. F., 9:00; Assistant Professor SPIKER, 13 W.; second section, M. W. F., 11:00; Mr. BRUNETTI; third section, M. W. F., 4:00; Assistant Professor PROVOST, 19 W.

6. Drama of the Nineteenth Century. (2 Hrs.) For freshmen and sophomores. Reading and study of several plays chosen from the works of Alfred de Musset, Scribe, Augier, Dumas, Bornier, Sardou, Lemaitre, Rostand. Given in connection with Course 5.

Second semester; first section, T. Th., 8:00; Assistant Professor PROVOST, 19 W.; second section, T. Th., 9:00; Assistant Professor SPIKER; third section, T. Th., 10:00; Professor DARBY, 14 W.

7. The Classic School. (3 Hrs.) For sophomores and juniors. This course includes the study of the origin and development of classic literature and the lives and works of the leading authors from the Pleiade to Moliere. Lectures, readings and reports.

First semester; M. W. F., 9:00; Professor DARBY, 14 W.

8. The Classic School after Moliere. (3 Hrs.) For sophomores and juniors. A continuation of Course 7, comprising the study of the remaining authors of the seventeenth century and the principal authors of the eighteenth century. Essays, collateral reading and reports on related topics of interest of the period.

Second semester; M. W. F., 9:00; Professor DARBY, 14 W.

9. French Syntax and Conversation. (2 Hrs.) For sophomores and juniors. Careful review of the parts of speech and study and application of them by means of original sentences. Conversation based on anecdotes and short stories both original and from texts.

First semester; T. Th., 9:00; Professor STATHERS, 11 W.

10. Advanced French Discourse. (2 Hrs.) For sophomores and juniors. A continuation of Course 9. Study and application of idiomatic construction in order to acquire facility in expression both in writing and in speaking. Paraphrasing and discussion in French based on subjects of moderate difficulty.

Second semester; T. Th., 9:00; Professor STATHERS, 11 W.

NOTE.—At least seven of the preceding courses are prerequisite to Courses 11 to 22, which, as far as it is convenient, are given in French.

11. Romantic Movement. (3 Hrs.) Primarily for seniors. Lectures on the origin, development and decline of romanticism. Study of representative works of the first half of the nineteenth century. Essays, collateral reading and reports.

First semester; M. W. F., 10:00; Professor STATHERS, 11 W.

12. **French Literature Since 1850.** (3 Hrs.) Primarily for seniors. Careful study of the different literary groups and schools of the period, critical reading of representative works of the leading authors and lectures on subjects of special interest.

Second semester; M. W. F., 10:00; Professor STATHERS, 11 W.

13.† **The Novel in France.** (2 Hrs.) For seniors and graduate students. Origin and development of the novel, reading and comparison of representative works from the earliest appearance to the present time. Lectures, essays and reports. (Omitted 1921-22).

First semester; T. Th., 11:00; Assistant Professor SPIKER, 13 W.

14.† **French Lyric Poetry.** (2 Hrs.) For seniors and graduate students. (Omitted 1921-22).

Second semester; T. Th., 11:00; Assistant Professor SPIKER, 13 W.

15.† **Early French Drama.** (3 Hrs.) Open to seniors and graduate students. Origin of the drama, its early development during the Middle Ages and Renaissance period; study of representative dramatic productions of these periods. (Omitted 1921-22).

First semester; M. W. F., 11:00; Professor STATHERS, 11 W.

16.† **Advanced Composition and Phonetics.** (3 Hrs.) Open to seniors and graduate students.

Second semester; M .W. F., 11:00; Professor STATHERS, 11 W

17.† **Contemporary French Drama.** (2 Hrs.) For seniors and graduate students. Lectures on the present tendencies of the French stage, its influence and its importance. Readings and reports on recent dramatic productions. (Omitted 1921-22).

First semester; T. Th., 10:00; Professor DARBY, 18 W.

18.† **Topic from Nineteenth Century Literature.** (2 Hrs.) For seniors and graduate students. This course is based upon the life and works of some author of the period or upon some literary group whose work and influences are studied. (Omitted 1921-22).

Second semester; T. Th., 10:00; Professor DARBY, 18 W.

19. (G) **Historical French Grammar.** (3 Hrs.) Primarily for graduate students. Study of the origin and development of modern French syntax from popular Latin through old French and the various formative periods of the language. (Omitted 1921-22).

20.† **Literature of the Sixteenth Century.** (3 Hrs.) Open only to seniors and graduate students. Lectures on the French Renaissance and study of the lives and works of Rabelais, Calvin, Marot, Montaigne. Essays and collateral reading.

First semester; M. W. F., 11:00; Professor STATHERS, 11 W.

21. (G) Old French. (3 Hrs.) Open only to graduate students. Study of Old French from the standpoint of derivation, inflection and syntax. Reading of selected and illustrative works. (Omitted 1921-22).

22. (G) Literature of the Middle Ages. (3 Hrs.) Open only to graduate students. General survey of the period and study of selections from leading literary productions from the eleventh to the close of the fifteenth century. (Omitted 1921-22).

Italian.

31. Elementary Italian. (3 Hrs.) Primarily for sophomores and juniors. Pronunciation, grammar, easy reading, composition and oral understanding. Marinoni's Italian Grammar and Italian Reader.

First semester; M. W. F., 9:00; Mr. BRUNETTI, 49 W.

32. Modern Italian. (3 Hrs.) Primarily for sophomores and juniors. A continuation of Course 31. Reading in class of Manzoni's I Promessi Sposi and selections from other modern authors. Composition, dictation and conversation.

Second semester; M. W. F., 9:00; Mr. BRUNETTI, 49 W.

NOTE.—Second year courses in Italian are offered when there is sufficient demand for them.

Spanish.

41. Elementary Spanish. (5 Hrs.) For freshmen and sophomores. Grammar and reading with practice in pronunciation, composition and oral understanding. Hills and Ford's First Spanish Course and Roessler and Remy's First Spanish Reader.

First semester; first section, 8:00; Professor DARBY, 14 W.; second section, 10:00; Assistant Profess SPIKER, 13 W.; third section 11:00, Assistant Professor PROVOST, 19 W.

42. Modern Spanish. (5 Hrs.) Reading and study of three or four works selected from the following authors: Perez Galdos, Palacio Valdes. Valera, Alarcon, Blasco Ibanez. Composition and conversation.

Second semester; first section, 8:00; Professor DARBY, 14 W.; second section, 10:00; Assistant Professor SPIKER, 13 W.; Third section, 11:00; Assistant Professor PROVOST.

53. The Novel in Spain. (3 Hrs.) Primarily for juniors and seniors. Study of the origin and development, with emphasis on the seventeenth and nineteenth centuries. Reading of several representative works.

First semester; M. W. F., 9:00; Professor STATHERS, 11 W.

44. Classic Drama of the Golden Age. (3 Hrs.) Primarily for juniors and seniors. Critical reading of selected works of Lope de Vega and Calderon and their contemporaries. Papers in the lives, works and times of these authors.

Second semester; M. W. F., 9:00; Professor STATHERS, 11 W.

45. The Drama of the Nineteenth Century. (2 Hrs.) For sophomore and juniors. Reading and study of some of the principal works of such modern Spanish authors as Moratin, Nunez de Arce, Echegaray, Ayala, Avellaneda.

First semester; first section; T. Th., 8:00; Assistant Professor SPIKER, 49 W.; second section, T. Th., 11:00; Professor STATHERS, 11.W.

46. Spanish Composition and Conversation. (2 Hrs.) For sophomores and juniors. Themes based on phases and incidents of daily life. Conversation and narration based on anecdotes and short stories both original and from texts.

Second semester; first section; T. Th., 8:00; Assistant Professor SPIKER, 49 W.; second section, T. Th., 11:00; Professor STATHERS, 11. W.

47. (G) Early Spanish Drama. (3 Hrs.) Open only to graduate students. Study of the drama from its most remote origin to the time of Lope de Vega; reading of works illustrating its early development. (Omitted 1821-22.)

First semester; M. W. F., hours to be arranged; Professor STATHERS, 11 W.

48. (G) Early Spanish. (3 Hrs.) Open only to graduate students. Study of the literature in the first centuries of its development, reading of the Cid. (Omitted 1921-22).

Second semester; M. W. F., hours to be arranged; Professor STATHERS, 11 W.

49. Latin America. (3 Hrs.) For sophomores and juniors. Study in Spanish of the lands and people from a geographical and historical standpoint with conversation in Spanish based on the texts read. Collateral reading and reports.

First semester; M. W. F., 11:00; Assistant Professor SPIKER, 13 W.

50. Contemporary Literature. (3 Hrs.) For sophomores and juniors. Study of several works of leading Latin American and Spanish authors with lectures and collateral reading on contemporary tendencies.

Second semester; M. W. F., 11:00; Asssistant Professor SPIKER. 13 W.

ZOOLOGY.

Professor REESE, Associate Professor CHIDESTER, and Mr. SIMPKINS.

NOTE.—For description of zoological laboratories see page 25.

The courses in this department are intended to serve as a means of general culture and to prepare students to become investigators and teachers of zoology. A wide field is offered for investigation in the organization, functions, habits, and evolution of animal life. Upon the results of such investigations rest to a large extent the sciences of medicines, psychology, and sociology. Courses 1, 2, 9 and 10 are of especial interest to teachers. Courses 1 and 2 are required of students preparing to enter the study of medicine.

1. **Animal Biology.** (4 Hrs.) A study chiefly of invertebrate animals, with an introduction to the vertebrates. Hegner's College Zoology.

First semester; recitation, T. Th., 8:00; or T. Th., 9:00; laboratory, first section, M. F., 2:00-4:30; second section (primarly for students in agriculture), T. Th., 2:00-4:30; third section, W. 2:00-4:30; S., 8:30-11:00; Professor REESE, Associate Professor CHIDESTER, Mr. SIMPKIN and Assistants, 49 and 50 W.

2. **Vertebrate Zoology.** (4 Hrs.) Dissection of the dogfish, frog, and cat. Lecture and recitations upon the biology, comparative anatomy, and evolution of vertebrates. Prerequisite: Zoology 1 or an equivalent.

Second semester; recitation, T. Th., 8:00, or T. Th., 9:00; laboratory, first section, M. F., 2:00-4:30; second section (primarly for students in agriculture), T. Th., 2:00-4:30; third section, W. 2:00 4:30; S., :30-11:00; Professor REESE, Associate Professor CHIDESTER, Mr. SIMKINS and assistants, 49 and 50 W.

6. **Vertebrate Embryology.** (3 Hrs.) Cleavage, gastrulation and the formation of germ layers are studied in the frog and chick; the development of organs in the chick and pig; these materials are supplemented by sections and cleared preparations of human embryos. Reese's Vertebrate Embryology. Prerequisite: Course 2 or an equivalent.

First semester; T. Th., 2:00-5:00; Professor REESE, 47 W.

9. **Methods of Zoology.** (2 or 3 Hrs.) A practical course in the methods of collecting, preserving, injecting, making microscopic preparations, etc. Lectures and laboratory work. Prerequisites: Courses 1 and 2 or an equivalent.

Second semester; M. W., 2:00-5:00; Associate Professor CHIDESTER, 47 W.

10.† Principles of Biology. (3 Hrs.) Primarily for upper-class men. This course deals with the conditions of animal life; habits, reactions, food relations, regeneration, etc.; the course of organic evolution; eugenics, etc. Lectures, recitations and assigned readings. Lull's Organic Evolution. Prerequisite: Zoology 1 or an equivalent, except by special permission.

This course may count towards a minor subject in graduate work by arranging with the instructor for additional work.

Second semester; M. W. F., 11:00; Associate Professor CHIDESTER, 49 W.

15.† Comparative Anatomy, Histology, and Embryology. (Credit in proportion to work done.) An advanced course; to be taken ordinarily only after most of the preceding courses have been completed.

First semester, M. F., 2:00-5:00; Professor REESE and Associate Professor CHIDESTER, 47 W.

19.† Current Literature. (1 Hr.) Open to seniors and graduate students. The purpose of this course is to familiarize the student with the character of the work that is being published in the best known American and foreign zoological journals.

First and second semester; hours to be arranged; Professor REESE, 51 W.

20.† Research Work. (Credit in proportion to work done.) Properly qualified students may undertake research work upon the anatomy or psychology of animals. Primarily for graduates.

First and second semester; hours to be arranged; Professor REESE and Associate Professor CHIDESTER, 47 W.

21. Economic Zoology. (2 Hrs.) A brief survey of the more important representatives of all the groups of animals that are economically beneficial or injurious to man. Lectures, recitations and assigned readings. Reese's Economic Zoology. Zoology 1 and 2 advised as prerequisite, but not required of upper classmen.

Second semester; T. Th., 11:00; Professor REESE, 46 W.

23.† Comparative Anatomy, Histology, and Embryology. (Credit in proportion to work done.) A continuation of course 15. Primarily for graduate students.

First and second semesters; hours to be arranged; Professor REESE, Associate Professor CHIDESTER, and Mr. SIMPKINS, 47 W.

NOTE.—For courses in entomology see announcements of courses offered in the College Agriculture.

THE COLLEGE OF ENGINEERING AND MECHANIC ARTS

THE FACULTY.

FRANK BUTLER TROTTER, A.M., LL.D., *President of the University*

CLEMENT ROSS JONES, B.S.C.E., M.M.E., *Dean and Professor of Power Engineering*

RUSSELL LOVE MORRIS, C.E., *Professor of Railway and Highway Engineering*

ROLAND PARKER DAVIS, M.C.E., PH.D., *Professor of Structural and Hydraulic Engineering*

JOHN BEHNY GRUMBEIN, M.M.E., *Professor of Steam and Experimental Engineering*

ALEXANDER HARDIE FORMAN, M.M.E., PH.D., *Professor of Electrical Engineering*

ALFRED COPELAND CALLEN, E.M., M.S., *Professor of Mining Engineering*

LESLIE DAVID HAYES, B.S.M.E., M.E., *Professor of Machine Design and Construction*

GEORGE PAUL BOOMSLITER, M.S., *Professor of Mechanics*

WILLARD WELLINGTON HODGE, M.A., *Professor of Chemical Engineering*

JAMES HERBERT GILL, B.M.E., M.E., *Professor of Machine Construction and Superintendent of Shops*

ARTHUR ADAMS HALL, B.S.M.E., *Associate Professor of Electrical Engineering*

GEORGE WALTER GROW, B.S.M.E., B.S., *Assistant Professor of Drawing and Machine Design*

CAMDEN PAGE FORTNEY, B.S.C.E., *Chief Engineer, State Road Commission, Director of School of Good Roads*

RUFUS ASA WEST, *Instructor in Metalworking*

RAYMER EGBERT SEAMAN, *Instructor in Woodworking and Foundry Practice*

CARL HENRY CATHER, B.S.M.E., *Instructor in Drawing and Machine Design*

HARRY EDWARD GRAY, *Instructor in Mining (Extension)*

BENNETT SEXTON WHITE, B.S.M.E., *Instructor in Drawing and Machine Design*

HAROLD MALCOLM CATHER, B.S.M.E., *Instructor in Drawing and Machine Design*

CHARLES KEPLER BROWN, *Instructor in Mining (Extension)*

ARTHUR TAYLOR BRAGONIER, B.S.C.E., *Instructor in Surveying*

WILLIAM J. CARL, *Instructor in Foundry Practice*

ADAM CRAWFORD, *Instructor in Mining (Extension)*

WILLIAM NORRIS, *Instructor in Mining (Extension)*

FRANK BROOKS, *Instructor in Drawing*

WILLIAM OLIVER GNAGEY, *Instructor in Machine Shop Practice*

DEWEY GEORGE FISHBECK, B.S.C.E., *Instructor in Mechanics*

ROY EZEKIEL NELSON, *Instructor in Surveying*

HERMAN DELOSS STILLMAN, *Assistant in Woodworking*

W. GRAHAM CARPENTER, *Local Instructor of Extension Classes in Teacher Training, Wheeling, W. Va.*

MARY LOUISE CONAWAY,[1] A.M., *Secretary*

MARY BELLE LORENTZ, *Assistant Secretary*

CHARLES MICHAEL RUNNER, *Stationary Engineer*

SAMUEL B. BROWN, A.M., *Professor of Geology and Mineralogy*

JOHN ARNDT EIESLAND, PH.D., *Professor of Mathematics*

CHAUNCEY WILLIAM WAGGONER, PH.D., B.S.C.E., *Professor of Physics*

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[1] Resigned, March 1, 1921.

JOSEPH ELLIS HODGSON, PH.D., *Professor of Mathematics*

FRIEND EBENEZER CLARKE, PH.D., *Professor of Chemistry*

ENOCH HOWARD VICKERS, A.M., *Professor of Economics and Sociology*

HARLAN LESLIE MUMMA, *Captain*, U. S. A., *Professor of Military Science and Tactics*

DAVID DALE JOHNSON, A.M., *Professor of English*

CARL ALFRED JACOBSON, PH.D., *Professor of Chemistry*

HUBERT HILL, M.S., *Associate Professor of Chemistry*

GEORGE RUSSELL BANCROFT, PH.D., *Associate Professor of Chemistry*

JOHN L. TILTON, PH.D., *Associate Professor of Geology*

FRED A. MOLBY, PH.D., *Associate Professor of Physics*

LOUIS AUGUST RUFENER, PH.D., *Associate Professor of Economics*

EARL READ SCHEFFEL, M.S., *Assistant Professor of Geology*

EDWARD SWITZER ALLEN, PH.D., *Assistant Professor of Mathematics*

HELMER SWENHOLT, Captain Engineers, U.S.A., *Assistant Professor of military Science and Tactics in charge of the Engineer unit*

EARL CLADIUS DAVIES, PH.D., *Assistant Professor of Chemistry*

LILY BELL SEFTON, A.M., *Assistant Professor of Chemistry*

ALLEN E. STEARN,[1] PH.D., *Assistant Professor of Chemistry*

BENJAMIN WALTER KING, A.M., *Assistant Professor of Economics*

HARVEY CARSON GRUMBINE, PH.D., *Assistant Professor of English*

PERLEY ISAAC REED, PH.D., *Assistant Professor of English*

REBECCA LUELLA POLLOCK, A.M., *Assistant Professor of English*

ENOCH FRANKLIN GEORGE, PH.D., *Assistant Professor of Physics*

CHARLES CHAPMAN SNOW, A.M., *Instructor in Chemistry*

ARTHUR EDWARDS OWENS, B.S., *Instructor in Chemistry*

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[1] Resigned, January 1, 1921.

ESTHER WAGNER STEARN,[1] A.M., *Instructor in Chemistry*

ELIZABETH DEE FROST, A.M., *Instructor in English*

CLAIRE BEATRICE FISHER, A.M., *Instructor in Mathematics*

ALLEN GUY MONTGOMERY, *Instructor in Mathematics*

MARION MARSH TORREY, A.M., *Instructor in Mathematics*

ORFA REX FORD, B.S., *Assistant in Physics*

RUFUS GLENN LAZZELL, *Student Assistant in Physics*

D. CLAIRE HARKINS, *Student Assistant in Mathematics*

FACULTY COMMITTEES

STUDENTS' COURSES AND HOURS: Dean JONES and Professors GRUMBEIN AND FORMAN.

ENGINEERING CURRICULA: Dean JONES, Professors MORRIS, DAVIS, FORMAN, CALLEN and HAYES.

ENGINEERIN SOCIETY: Professor GRUMBEIN, MORRIS, FORMAN, JOHNSON, and BOOMSLITER.

LIBRARY: Professors DAVIS and HAYES.

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[1] Resigned, January 1, 1921.

ORGANIZATION.

The College of Engineering contains the following departments:
Chemical engineering.
Electrical engineering.
Machine design and construction.
Mechanics and applied mathematics.
Mining engineering.
Railway and highway engineering and surveying.
Steam, gas, and experimental engineering.
Structural and hydraulic engineering.
Industrial education.
Summer school of mines.
School of good roads.
Mining extension.

BUILDINGS AND EQUIPMENT.

All instruction in engineering subjects is centralized in Mechanical Hall. This building is located on the southeast corner of the campus and fronts on the athletic field.

In this building are the mechanical, electrical, mining, oil and gas and the material testing laboratories; offices, recitation and lecture rooms, general and departmental drawing rooms; the shops and museums; recitation, laboratory and model rooms for the department of geology; offices and drawing rooms for the Division Engineer and the Testing Engineer of the State Road Commission and offices for the State Geological Survey.

In the drawing rooms are collections of models of bridges, furnaces, structures, mechanisms, engines, pumps, valves and valve gears; descriptive geometry models; sets of charts, state and government maps, surveys, photographs, engineering specifications, drawings, tracings, and blue prints. In connection with the drawing rooms there is a blue printing and photographic room and dark closet, equipped with electric and sun printing apparatus, photostat and photographic outfit.

The shops consist of a woodworking shop, forge shop, foundry, machine shop, sheet metal shop, pipe fitting shop, automobile repair shop and an acetylene welding plant. Each workshop occupies a separate room and is independently equipped, with suitable benches, measuring instruments, tools shop appliances and machines, such as are ordinarily installed in the larger engineering colleges and commercial shops. These afford ample facilities for performing all the fundamental operations in machine construction and for building machines of moderate size.

A variety of semi-automatic and full automatic machines provides unusual opportunity for the study of modern production methods.

The power plant equipment consists of different types of steam and gas engines, direct connected or belted to electric generators; a 100 K. W. Westinghouse condensing steam turbine direct-connected to a direct current generator; a 50 h. p. motor-generator set; steam boilers, equipped for burning both gas and coal; an independently fired superheater equipped with temperature controller; pumps, condensers, air compressors, steam traps and other auxiliary apparatus, providing the means for furnishing any desired kind of power.

The engineering laboratories are supplied with standard gauges, measuring, calculating, and recording instruments; apparatus and appliances for qualitative and quantitative experimental work in civil, mechanical, steam, hydraulic, electrical and mining engineering.

The testing laboratory is equipped with apparatus and machines for testing cement, iron, steel, brick, stone, and other materials of engineering. The principal machines and apparatus are an Olsen testing machine of 400,000 pounds capacity, taking tension and compression specimens up to six feet, and beams up to sixteen feet in length; a 50,000 pound Riehle testing machine; a 20,000 pound Riehle automatic and autographic testing machine; a 10,000 pound Olsen transverse testing machine; a 60,000 inch-pound Riehle-Miller torsion machine; one Olsen and two Fairbanks cement testers; Brinnell and Shore hardness testers; a standard abrasion cylinder; a stone saw; besides smaller apparatus for testing cement, lubricating oils, and extension and deflection of materials.

The mechanical and steam laboratories contain small steam and gas engines, a compound air compressor with electrical and mechanical control, Westinghouse air brake apparatus, rotary air motors, a hot air engine, direct steam driven ventilating and power driven fans, dynamometers, friction brakes, condensers, injectors and ejectors, steam and gas engine indicators, revolution counters, planimeters, anemometers and apparatus for testing pressure gauges, indicator springs, thermometers, Venturi meters and nozzles for measuring flow of air and steam, etc. These are supplemented by the power plant equipment previously described, which affords facilities for steam and gas engine trials and boiler tests with larger units, and also provides facilities for various lines of experimental investigation.

The electrical laboratory is provided with a number of small compound, shunt and series-wound direct current generators and motors, ranging from 2½ to 20 kilowatt, two and three-phase alternating current generators and motors of frequencies from 20 to 133 cycles, and capacities ranging from 2 to 20 kilowatt; rotary converter and motor generator sets; an 8-horse-power variable speed Stow motor, driving a 5-kilowatt, 2-phase, 220-volt, 10 pole alternator, which may

give any frequency from 40 to 133 cycles; a 3-horse power inter-pole motor; a 3-horse power Thompson-Ryan variable speed motor which, driving a small alternator, affords frequencies from 15 to 60 cycles; a revolving field, 7½ K. W. General Electric alternating current generator, wound to give from one to twelve phases; a Holtzer-Cabot, 5-horse-power induction motor set with interchangeable motor; a 5-horse power Lamme series, single-phase motor; a 3-horse power self-starting, Century, single-phase induction motor; a 5-horse-power General Electric, split-phase motor; a 10-horse-power Stanley 2-phase induction motor equipped with compensator, condenser, and transformers; a 10-horse-power Sprague electric dynamometer; a 30 ampere General Electric Mercury-Arc Rectifier and storage battery equipment; various types of Cutler-Hammer and other speed regulating and controlling apparatus; reactances, static, auto and constant-current transformers; a welding transformer; a high potential transformer for testing insulation, etc.; a Thodarson set of experimental apparatus for demonstrating many of the principles of electricity; a Queen & Co. testing set, with standards of capacity, induction and resistance, and with a potentimeter and standard cell, for standardizing electrical instruments; a General Electric oscillograph with accessories; standard and commercial indicating and recording measuring instruments; synchronism and power-factor indicators; dynamometers; fluxmeter; galvanometers; tachometers and speed counters; rheostats or various types and capacities; and eight distributing switchboard panels. The electric railway equipment consists of a car truck, with motors, mounted on a dynamometer; air brake outfit; three types of control equipment and a switchboard panel with indicating and recording instruments. This is supplemented also by the larger generating and controlling units in the power plant.

The hydraulic laboratory equipment consists of a compound duplex steam pump supplying water to a closed steel pressure tank, from which run headers arranged for the insertion of orifices, nozzles, and pipes supplying the various hydraulic motors; concrete storage tanks; measuring tanks and weighing scales; cascade water wheel; Venturi meter, water meter steel weir-box weir-gauges, and other minor measuring and controlling apparatus.

The road material testing laboratory equipment consists of standard abrasion cylinder for testing paving brick; a standard three-gang motor driven Deval abrasion cylinder; motor driven ball mill; briquette machine; core drill; motor driven grinding lap and stone saw; motor driven "Dorry" hardness testing machine; standard Page impact tester, with anvil for cementation tests; road-making tools. Braun planetary pulverizer; Dulin roterex; motor driven sieve shaker, etc.

The mining laboratory is equipped with drills, coal cutting machinery air receiver, etc.; leading types of mining rescue apparatus,

pulmotor, smoke chamber for use in training with rescue apparatus, devices for demonstrating the explosibility of coal dust, the William Clifford-James T. Beard collection of safety lamps, device for showing the length of cap with varying percentages of methane in mine air, models showing methods of working anthracite and bituminous seams of coal, small mine fan for experimental use in the study of mine ventilation, recording barometer, hygrometer, etc. Additional equipment has been installed to permit washing and concentrating tests on coal, pyrite, etc. A 7½x10½ Blake crusher made by the Allis-Chalmers Co., discharges into the boot of a Jeffrey bucket elevator. The material may be sent from the elevator to either a 30-inch trommel or a 24-inch shaking screen; these screens have 1, ¾, ½ and ¼-inch round holes, and the screened products are discharged into bins. A pair of 8x5 inch Sturtevant rolls can be used for fine crushing. A two-compartment Harz jig and a Richards pulsator jig comprise the present jigging equipment, while a Butchart table is provided for the treatment of material too fine for the jigs. A small Jeffery-Robinson coal washer can be used for demonstration and testing work, and its performance, or the performance of the jigs and tables, can be checked up by sink-and-float test machines. A bench has been equipped with crushers and grinders so that the samples from the laboratory may be prepared at once for chemical analysis.

The metallurgical laboratory is especially equipped for the study of fuels, such as coal, coke, gas and oil. In part it comprises analytical balances, Cary combination gas furnace, electric drying oven, water still, Emerson and Parr fuel calorimeters, apparatus for the analysis of gases, apparatus for the proximate analysis of coal and for determining the coking properties, etc.

The oil and gas laboratory is provided with equipment for determining the physical and chemical properties of oils and gases, as follows: Junker calorimeter, Emerson calorimeter, Saybolt standard Universal viscosometer, Pensky-Martin flash point apparatus, calorimeter, apparatus for heat test, fire test, cold test and emulsion test; Baume hydrometers; apparatus for the determination of carbon residue in oils; the estimation of gasoline content per 1000 cubic feet of natural gas, etc., etc.

Transits, levels, compasses, etc., are provided for the use of students in land and mine surveying and in highway and railway construction.

The latest trade literature, catalogues, and reports of commercial developments in engineering are kept in classified files for students' reference. The University library has a thoroughly classified and indexed collection of the standard and latest books in engineering and the allied sciences, complete bound sets of the transactions of several scientific and engineering societies, and current issues and bound volumes of the principal scientific and technical periodicals.

FACILITIES FOR PRACTICAL OBSERVATION.

The University is located in a region which affords the student unusual opportunities for practical observation and education in engineering. Morgantown is situated practically at the edge of three extensive coal regions; the Fairmont, the Deckers' Creek and the Connellsville fields. The nearest large workings in the Pittsburgh coal seam are within a mile of the University, and the nearest in the Upper Freeport vein are only four miles away. Connellsville is only forty-five miles distant from Morgantown, and Pittsburgh, the center of the world's greatest iron and steel industries, is 103 miles distant.

West Virginia's gas and oil districts approach within four miles of Morgantown and supply fuel for numerous factories. There are extensive brick works; twelve glass factories, producing pressed, plate, cut, window and bottle goods; two pumping stations, the Pure Oil Company's plant to the north of the city and the Standard Oil Company's plant to the south; the Sabraton plant of the American Sheet and Tin Plate Company; the Morgantown and Kingwood Railroad Shops; the Chrisman and Goodwin Foundry plant; the Morgantown Printing and Binding Company, and the factory of the Barley Foods Company.

At Manheim, on the M. & K. R. R., is located the Manheim Portland Cement works with a capacity of 1200 barrels a day; at Greer, an extensive limestone crushing plant, and at Sturgisson, the leading glass sand industry of this section.

ENGINEERING SOCIETY.

The Engineering Society is conducted by the students of the College of Engineering under the direction of a faculty committee. The society meets bi-weekly for the discussion of scientific subjects. All engineering students are urged to join the society immediately upon entrance to the college and to perform such work as its rules require. Students taking any of the four-year curricula leading to the baccalaureate degrees in engineering are required to engage actively in the work of the society during the third and fourth years. A credit of one hour will be given for the work of each of the last two years.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.

The West Virginia University Student Branch of the American Institute of Electrical Engineers holds monthly meetings during the college year. Membership is open to students in the department of electrical engineering.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS.

An affiliated student society of the American Institute of Mining and Metallurgical Engineers is maintained in the College of Engineering. Meetings are held every two weeks. Membership is open to all students in mining engineering.

TUITION, FEES AND INSTRUMENTS.

All engineering students must pay the following fees at the opening of each semester: contingent fee, $12.50; medical fee, $2.50; student activity fee, $5.00; registration fee, $2.00. The registration fee is remitted to all students who complete the registration during the first three days of the first semester and the first two days of the second semester.

Tuition is free to residents of West Virginia, but for students not residents of West Virginia the tuition fee is $50.00 a semester.

A diploma fee of $10.00 must be paid by all students at the beginning of the semester in which they expect to receive their degree.

All students must furnish their own drawing instruments. These should be of good grade for accurate work during the full course of study and for work after graduation. Students who prefer may purchase all instruments needed at the University at a cost much below the retail prices. The present cost of instruments of the grade desired is approximately $25.00. Instruments suitable for temporary use only can be furnished at a cost of about $15.00.

ENTRANCE REQUIREMENTS.

For admission to the College of Engineering, the candidate must have credit, obtained by examination or on certificate, for fifteen units of secondary school work, i. e., the work of a standard four-year high school[1].

A. The following groups are required:
   (1) Four units of English.
   (2) Three units in one other subject.
   (3) Two units in a third subject.
   (4) Two units in a fourth subject.
   (5) Four units elective.

B. In addition to the four units of English the work indicated in (A) must include: one and one-half units of algebra, one unit of plane geometry and one-half unit of solid geometry.

C. Work in the following subjects not to exceed the number of units placed after each subject will be accepted:

English	4 units	Science[4]	
		Physics	1 unit
Foreign languages[2]		Chemistry	1 unit
Latin	4 units	Biology	1 unit
Greek	3 units	Botany	1 unit
French	3 units	Geology	1 unit
German	3 units	Zoology	1 unit
Spanish	2 units	General science	1 unit
Italian	2 units	Physical geography	½ unit
Mathematics		Physiology	½ unit
Algebra	1½ units	Hygiene and sanitation	½ unit
Plane geometry	1 unit	Vocational subjects (not to exceed	
Solid geometry	½ unit	four units in all.)	
Trigonometry	½ unit	Agriculture	3 units
		Household arts	3 units
History and economics		Manual training	3 units
History	3 units	Bookkeeping or book-keeping and commercial arithmetic	2 units
Civics	1 unit		
Elementary economics and sociology	1 unit	Shorthand and typewriting	2 units
Education	2 units	Commercial geography	½ unit
Drawing		Commercial law	½ unit
Free-hand drawing	1 unit	Music:—violin, organ or	
Mechanical drawing	1 unit	piano	2 units

[1] These admission requirements are effective from May 1, 1919, but graduates from high schools in 1919, or 1920, or 1921 may if they prefer enter under the requirements as stated in the University catalogue for 1918-19.

[2] Students are advised to present at least two units in one foreign language, one unit in history and one unit in physics. Students offering less than one and one-half units in algebra must make up the shortage before entering the class in college algebra. Solid geometry, when not offered, must be made up before the beginning of the second year.

[3] Not less than two units of one foreign language will be accepted for entrance.

[4] A group of two units in scince may be made by combining one unit each of physics and chemistry or one unit each of any two of the following: biology, botany, zoology, geology. A group of three units in science may be made by combining one unit each of any three of the following: physics, chemistry, biology, botany, zoology, geology.

ADMISSION WITH ADVANCED STANDING.

Students from other institutions will be given credit for work already done in accordance with the general rules for advanced standing, but at least one year of resident work will be required for any of the baccalaureate degrees in engineering.

ADMISSION AS SPECIAL STUDENTS.

Students over twenty-one years of age desiring to take special work in the College of Engineering and Mechanic Arts are required to present nine units for entrance and to conform to the general regulations of the University regarding special students. (See University Catalogue).

Such students must give satisfactory evidence that they are prepared to take the desired studies advantageously; but if they subsequently desire to become candidates for a degree or to take a regular curriculum in engineering, they must pass the required entrance examination for that year. Special provisions are made for disabled soldiers and those taking strictly vocational courses.

CLASSIFICATION OF STUDENTS.

To be classified as a freshman in the College of Engineering a student must have credit for at least 13 units of entrance requirements; to be classified as a regular freshman he must have fulfilled all entrance requirements. To be classified as a sopohmore he must have credit for twenty-six hours of college work; as a junior, sixty-four hours; as a senior, one hundred and four hours.

CREDIT FOR WORK DONE IN ABSENCE.

Students of the College of Engineering under exceptional circumstances are permitted to apply for advanced standing for not more than a total of six hours credit for practical work in the following subject done in the field, shops, or drafting room, during vacation or other periods of absence from the University: woodworking (courses 1, 2 and 3), pattern making (4), foundry practice (5), forging (7), shop work (9), pipe fitting (10), machine tool work (13 and 14), machine construction (15), electrical construction (610), mechanical drawing (20, 22, 24 and 25).

To obtain credit application must be made before the work is begun, and a daily record kept of the work done. A certified statement of work done signed by the employer accompanied by a full report prepared by the applicant, must be filed with the Dean of the College on or before October 1st. Rules of procedure and application blanks may be obtained from the Dean.

In order to obtain credit for Summer Practice 164, the same rules of procedure apply.

UNDERGRADUATE CURRICULA.

The following curricula are offered for undergraduate students in the College of Engineering:

1. A four-year curriculum leading to the degree of Bachelor of Science in Civil Engineering, with option in sanitary engineering.
2. A four-year curriculum leading to the degree of Bachelor of Science in Mechanical Engineering.
3. A four-year curriculum leading to the degree of Bachelor of Science in Electrical Engineering.
4. A four-year curriculum leading to the degree of Bachelor of Science in Engineering of Mines, with options in coal mining and oil and gas engineering.
5. A four-year curriculum leading to the degree of Bachelor of Science in Chemical Engineering.
6. A four-year curriculum in industrial education leading to the degree of Bachelor of Science.
7. Combined science and engineering curricula extending over five or more years leading to the degree of Bachelor of Science, and Bachelor of Science in Engineering.

REQUIREMENTS FOR DEGREES.

To receive any of the baccalaureate degrees conferred in the College of Engineering the student must have satisfied all the entrance requirements and with the exception of Curriculum No. 7 must have received credit for one hundred and forty-eight semester hours, including a summer term equivalent to five semester hours, three of which shall be in residence and two hours in outside practice. The particular curriculum and distribution of work is prescribed for each degree is stated below.

No student is permitted to register for less than fifteen or more than twenty hours of work in any one semester.

SPECIAL CURRICULA FOR STUDENTS WITH IRREGULAR PREPARATION.

The courses of study outlined on the following pages are intended for students who matriculate with full entrance requirements. Alternative curricula have been arranged for students who offer only one unit of algebra for entrance or who are otherwise not prepared to take college algebra and trigonometry, (Mathematics 34). Such students will take review algebra (Mathematics 1) for entrance credit and Mathematics 3, 4 and 6 in the freshman year; Mathematics 13 and 14 in the sophomore year; and Mechanics 76 and 77 in the junior year. Similar provisions are made for deficiencies in English and solid geometry.

THESES.

Any candidate for baccalaureate degrees in engineering may with the consent of his major professor prepare a thesis on some subject

relating to a special branch of engineering or other department of applied science. It must be fully elaborated and accompanied by the necessary working drawing or models required for the proper elucidation of the subject of the thesis. With its accompanying drawings it will be presented for approval, first to the instructor under whose guidance it has been prepared, then to the head of the department in which the degree is to be conferred. A typewritten copy of the thesis, prepared according to official specifications for theses and signed by the instructor in charge and the head of the department, must be placed in the University library before graduation. A small fee is charged for binding.

CIVIL ENGINEERING.

The course in civil engineering has been planned so that the student will get a substantial foundation for the work of the civil engineer. Emphasis is placed on the subjects underlying the science of engineering, such as physics, mathematics, etc., and these subjects are presented to the engineering students, not as an end in themselves, but as a means for the solution of engineering problems. The professional subjects are taught by means of recitations, lectures, drawing room work, laboratory work and field work.

Civil engineering includes topographical and geodetic engineering, which has to do with the measurements of land surfaces; railroad and highway engineering, comprising the construction and maintenance of railroad lines and highways and the economic features governing them; municipal engineering, comprising the construction of sewers, water-works, etc., structural engineering, comprising the construction of buildings, bridges, foundations, docks, walls, piers and other fixed structures; and hydraulic engineering comprising the development of water power, the transference of water from place to place, etc. The field is so broad that no man can ever become an expert over its whole extent, but fortunately all of these various branches rest upon a very small body of principles, and the student is not forced to specialize until he enters active practice.

In addition to the Sanitary Option, outlined below, the student is offered the choice of two options in the second semester of the senior year, one of which devotes more time to the subject of railroad and highway engineering, the other to the subject of hydraulic engineering.

Optional Course in Sanitary Engineering.

Students in civil engineering who desire to specialize in sanitary engineering are permitted to substitute: Chemistry 6, Quantitative analysis, (4 hrs.), Bacteriology 3, General Bacteriology, (4 hrs.), and Chemistry 8, Organic Quantitative analysis (5 hrs.) for an equal amount of credit in other required subjects, but the subjects omitted must be approved by the faculty of the college.

NOTE: See page 15, Special Curricula for Students with Irregular Preparation.

UNDERGRADUATE CURRICULUM IN CIVIL ENGINEERING.

Leading to the Degree of Bachelor of Science in Civil Engineering.

First Year—First Semester.			First Year—Second Semester.		
Rhetoric and comp. (Eng. 1)	3		Rhetoric and comp. (Eng. 2)	3	
Algebra and trigonometry (Math. 34)	5		Trigonometry and analytical geometry (Math. 35)	5	
Inorganic chemistry (Chem. 1)	4		Land surveying 100	3	
Military science (1)	1		Inorganic chemistry (Chem. 2)	4	
Mechanical drawing 20	2		Military science (2)	1	
Shop work 9	2	17	Mechanical drawing 22	2	18
Engineering Lectures					

Second Year—First Semester.			Second Year—Second Semester.		
Descriptive geometry 26	3		Integral calculus (Math. 8)	3	
Advanced surveying 102	2		General physics (Phys. 8, 4)	5	
General physics (Phys. 6, 2)	5		Topographical surveying 103	2	
Differential calculus (Math. 7)	3		Statics 70	3	
Military science (3)	1		Military science (4)	1	
Qualitative analysis (Chem. 4)	2		General geology (Geol. 2)	3	
Mechanical drawing 25	2	18	Laboratory geology (Geol. 2)	1	18

Summer work, Surveying 109—1

Summer work (out of residence), Summer practice 164—2

Third Year—First Semester.			Third Year—Second Semester.		
Mechanics of materials 71	4		Kinetics 72	3	
Mechanical laboratory 130	2		Hydraulics 73	2	
Railway location 104	3		Mechanical laboratory 131	2	
Heat engineering 120	3		Roofs and bridges 141	4	
Economic geology (Geol. 4)	3		Applied electricity 51	4	
Economics (Economics 115)	3		Money, banking and credit (Economics 105)	2	
Engineering Society 162		18	Engineering Society 162	1	18

Summer work, Railroad surveying 110—2

Fourth Year—First Semester.			Fourth Year—Second Semester.		
Railway maintenance 105	3		Masonry and foundations 146	3	
Water supply engineering 149	3		Sanitary engineering 148	2	
Materials of construction 156	2		Concrete construction 147	3	
Bridge design 142	4		Advanced structures 143	3	
Roads and pavements 106	3		Cost accounting (Econ. 125)	2	
Business law 161	3		English (Eng. 14)	1	
Engineering Society 163		18	Engineering Society 163	1	
			Options from the list below	3	18
Thesis 113 or 152	3		Railroad economy 107	3	
Highway engineering 108	3		Water power engineering 150	3	

MECHANICAL ENGINEERING.

The aim of the course in mechanical engineering is to give the student such mental equipment as will enable him to deal most effectively both technically and commercially with general engineering problems. All possible practice is given in the work that an engineer is ordinarily called on to do, but greater stress is laid on a thorough knowledge of those underlying principles and methods which are the foundation of all engineering professions. To this is added a study of those economic subjects which are essential to a thorough understanding of sound business methods. Options are provided in the fourth year which enable the student to specialize in accordance with his natural inclination.

The work in pure mathematics is terminated at the end of the second year, and applications follow in the recitation room courses in mechanism, statics, mechanics of materials, dynamics, and machine design. Steam engineering begins with the course in thermodynamics in the third year and is continued by the courses in heat engines and power plant design with options in the design of steam engines and turbines. A sufficient amount of electrical engineering is given in the third and fourth years to enable the student to handle engineering operations involving the simpler electrical problems.

Drafting room work is given throughout the four years, starting with elementary mechanical drawing in the first year. The courses in mechanism, machine design and power plant design are accompanied by drawing room work, giving practical applications of the principles studied in the class room, and constant practice in the execution of drawings.

The engineering laboratories provide the students with practice in testing, handling and caring for a large variety of machinery, including steam, air, gas, hydraulic, material-testing and power-transmission machinery. One-half day a week is devoted to this work during the last two years.

The shop work, commencing in the first year, is planned to acquaint students with the fundamental tools and mechanical operations, to enable them to acquire a reasonable amount of manual dexterity, and to furnish them continuously with practical examples of the principles studied in their class rooms. A study is made of the methods used in manufacturing plants and engineering establishments, and of the principles of industrial management.

The thorough understanding of principles, the development of the reasoning faculty, and the knowledge of the sources to draw on for engineering information as it may be needed, are of the greatest importance, and take precedence over the mere acquisition of knowledge.

NOTE: See page 15, Special Curricula for Students with Irregular Preparation.

UNDERGRADUATE CURRICULUM IN MECHANICAL ENGINEERING.

Leading to the Degree of Bachelor of Science in Mechanical Engineering.

First Year—First Semester.			First Year—Second Semester.		
Rhetoric and comp. (Eng. 1)	3		Rhetoric and comp. (Eng. 2)	3	
Algebra and trigonometry (Math. 34)	5		Trigonometry and analytical geometry (Math. 35)	5	
Inorganic chemistry (Chem. 1)	4		Surveying 101	1	
Military science (1)	1		Inorganic chemistry (Chem. 2)	4	
Mechanical drawing 20	2		Military science (2)	1	
Woodworking 1 or Foundry 5	1		Mechanical drawing 22	2	
Forging 7	1	17	Foundry (5) or woodworking (1) and forging (7)	2	18
Engineering lectures					

Summer work, Machine shop 13—3

Second Year—First Semester.			Second Year—Second Semester.		
Differential calculus (Math. 7)	3		Integral calculus (Math. 8)	3	
General physics (Phys. 6, 2)	5		General physics (Phys. 8, 4)	5	
Descriptive geometry 26	3		Statics 70	3	
Military science (3)	1		Mechanism 27	2	
Qualitative analysis (Chem. 4)	2		Military science (4)	1	
Mechanical drawing 24	2		Mechanism drawing 28	2	
Pattern making 4 or Machine work 14 and Pipe-fitting 10	2	18	Machine work 14 and Pipe-fitting 10 or Pattern making 4	2	

Summer work (out of residence), Summer practice 164—2

Third Year—First Semester.			Third Year—Second Semester.		
Mechanics of materials 71	4		Kinetics 72	3	
Thermodynamics 121	3		Hydraulics 73	2	
Elect. and mag. (Physics 10)	3		Heat engines 122	3	
Economics (Econ. 115)	3		Money, banking and credits, (Econ. 105)	2	
Mechanical laboratory 130	2		Machine design 35	2	
Machine construction 15	2		Mechanical laboratory 131	2	
Engineering society 162		17	Shop methods 16	2	
			Machine drawing 36	2	
			Engineering society 162	1	19

Fourth Year—First Semester.			Fourth Year—Second Semester.		
Power plant design 123	3		Cost accounting (Econ. 125)	2	
Engineering laboratory 132	2		Engineering laboratory 133	2	
Electrical engineering 53	2		Elements of elect. eng'g 54	2	
Electrical laboratory 530	2		Electrical laboratory 540	2	
Business law 161	3		English (Eng. 14)	1	
Machine design 37	2		Designing and drawing 41	2	
Machine drawing 38	2		Industrial management 46	1	
Structural engineering 144	2		Engineering society 163	1	
Engineering society 163		18	Options from the list below	5	18
Steam engine design 39	2		Industrial engineering 47	3	
Gas engineering 126	3		Gas engine design 45	3	
Power machinery 128	3		Heating and ventilation 127	3	
Steam turbines 125	3		Steam boilers 124	2	
Steam engine drawing 40	2		Thesis 49 or 135	3	

ELECTRICAL ENGINEERING.

The course in electrical engineering is intended to give the student that theoretical and practical instruction which will enable him to obtain a basic knowledge of the application of electricity.

The work of the first two years is largely preparatory to the technical training of the latter two years, and parallels closely that of the mechanical engineering course. This gives the requisite foundation in English, mathematics, physics, chemistry, drafting and the elements of shop practice. Electrical construction is taken up at an early part of the course so that the student may profit by it when seeking summer employment. Some of the fundamental principles of electricity and magnetism are studied in the course in phyiscs.

The purely electrical engineering courses begin with the third year. In the first semester of this year, the elements of electrical engineering together with illumination and signalling are studied. The theory is studied in the class room and then experimentally proven or verified in the laboratory. In the second semester this study is continued to include the design, construction and operation of direct current machinery as well as the theory of alternating currents. In addition to the electrical studies the following supplementary subjects come throughout the year: thermodynamics and heat engines; mechanics; mechanical laboratory practice; economics; and money, credit and banking.

The fourth year is largely devoted to a study of the commercial applications of electricity either directly or indirectly. The design, construction and operation of alternating current apparatus are studied in the class and the laboratory. The generation of electrical energy, its distribution and utilization, together with the economic factors to be considered are covered by the course in electrical generation and distribution, which is continued into the second semester as a design course. Previous to this second semester's work in general design, the fundamentals of design are covered in the courses in electrical design and calculations and machine design, both of which are given in the first semester. The course in electric traction takes up the proper selection of electric railway equipment and the course in advanced electrical laboratory is included to give the student an opportunity for original work. In the option the student has a choice of the following subjects: industrial applications of electricity; telephone engineering; transients, surges and electric waves; high tension dielectric phenomena; thesis; differential equations; and radio telegraphy. Other courses not already mentioned in the fourth year are: business law; engineering society; hydraulics; engineering laboratory; English; and cost accounting.

NOTE: See page 15, Special Curricula for Students with Irregular Preparation.

UNDERGRADUATE CURRICULUM IN ELECTRICAL ENGINEERING.

Leading to the Degree of Bachelor of Science in Electrical Engineering.

First Year—First Semester.			First Year—Second Semester.		
Rhetoric and comp. (Eng. 1)	3		Rhetoric and comp. (Eng. 2)	3	
Algebra and trigonometry (Math. 34)	5		Trigonometry and analytical geometry (Math. 35)	5	
Inorganic chemistry (Chem. 1)	4		Surveying 101	1	
Military science (1)	1		Inorganic chemistry (Chem. 2)	4	
Mechanical drawing 20	2		Military science (2)	1	
Forging 7	1		Mechanical drawing 22	2	
Woodworking 1	1	17	Electrical construction 610	2	18
Engineering lectures					

Summer work, Machine shop 13—3

Second Year—First Semester.			Second Year—Second Semester.		
Differential calculus (Math. 7)	3		Integral calculus (Math. 8)	3	
General physics (Phys. 6, 2)	5		General physics (Phys. 8, 4)	5	
Descriptive geometry 26	3		Statics 70	3	
Military science (3)	1		Mechanism 27	2	
Qualitative analysis (Chem. 4)	2		Military science (4)	1	
Mechanical drawing 24	2		Mechanism drawing 28	2	
Foundry 5	2	18	Pattern making 4	2	18

Summer work (out of residence), Summer practice 164—2

Third Year—First Semester.			Third Year—Second Semester		
Mechanics of materials 71	4		Kinetics 72	3	
Thermodynamics 121	3		Heat Engines 122	3	
Elements of electrical eng'g 50	4		Direct current machinery 52	4	
Illumination and signalling 58	2		A. C. Theory and meas. 55	3	
Mechanical laboratory 130	2		Mechanical laboratory 131	2	
Economics (Econ. 115)	3		Money, banking and credits (Econ. 105)	2	
Engineering society 162		18	Engineering society 162	1	18

Fourth Year—First Semester.			Fourth Year—Second Semester.		
A. C. machinery 56	3		Hydraulics 73	2	
Machine design 35	2		Electric traction 57	2	
Machine drawing 36	2		Elec. gen. and dist. 630	3	
Electrical laboratory 560	2		English (English 14)	1	
Elec. gen. and dist. 630	3		Engineering laboratory 133	2	
Elec. design and calcul. 590	3		Advance elect. laboratory 600	2	
Business law 161	3		Cost accounting (Econ. 125)	2	
Engineering society 163		18	Engineering society 163	1	
			Options from the list below	3	18

Indust. applications of elect. 65	3		Thesis 69	3	
Telephone engineering 68	3		Differential equations (Math. 9)	3	
Transients, surges and electric waves 62	3		Radio-telegraphy (Phys. 11)	3	
High tension dielectric phenomenon 67	3				

MINING ENGINEERING.

Mining engineering deals with the processes and appliances used in the extraction of minerals from within the earth. Not only must the mining engineer be thoroughly trained in mining and geology, but also in the application of the fundamental principles of civil, electrical and mechanical engineering to mining conditions.

The first two years of the course in mining engineering are devoted to a thorough training in the underlying principles of mathematics, physics and chemistry. Supplementing these are courses in surveying, including mine surveying, English, drawing, and shop work. For the last two years of the course two options are provided, one in coal mining and one in geological engineering and oil and gas production. The student is permitted to state his choice of option at the beginning of the sophomore year.

COAL MINING.

In the coal mining option the study of coal mining is taken up in the third year. This study includes the geology and classification of coals; explosives and blasting; prospecting; shaft sinking and tunneling; methods of working; haulage, hoisting and pumping; and the preparation of coal for the market. A course in the projection of mine workings and the design of mining plants runs throughout the senior year. A thorough course in mine gases and the ventilation of mines is given in the first half of the fourth year, supplemented by work in the mining laboratory. The course in fuels is designed to give the student a knowledge of the various fuels that are utilized in engineering practice, while the courses in metallurgy acquaint him with the materials and processes used in manufacture of iron and steel. The course in mine management presents the economic, social and financial considerations to be met in the successful management of a mining enterprise.

The study of steam engineering begins with the course in heat engineering, and practice in the handling and care of instruments and machinery and in the solution of practical engineering problems is offered in the mechanical laboratory. These courses are followed by courses in electrical engineering and structural engineering.

A training in the science of geology is afforded by the courses in mineralogy and general and historical geology. These courses may be supplemented by the study of the economic geology of the non-metallic minerals in the senior year, special attention being paid to the geology of coal, oil and gas. Should the student desire further work in geology a course in field geology is offered as an elective subject.

The courses in economics, money, banking and credits, business law and cost accounting furnish the fundamental business training so essential for the engineer.

NOTE: See page 15, Special Curricula for Students with Irregular Preparation.

UNDERGRADUATE CURRICULUM IN MINING ENGINEERING (COAL MINING OPTION)

Leading to the Degree of Bachelor of Science in Engineering of Mines.

First Year—First Semester.			First Year—Second Semester.		
Rhetoric and comp. (Eng. 1)	3		Rhetoric and comp. (Eng. 2)	3	
Algebra and trigonometry (Math. 34)	5		Trigonometry and analytical geometry (Math. 35)	5	
Inorganic chemistry (Chem. 1)	4		Land Surveying 100	3	
Military science (1)	1		Inorganic chemistry (Chem. 2)	4	
Mechanical drawing 20	2		Military science (2)	1	
Shop work 9	2	17	Mechanical Drawing 22	2	18
Engineering lectures					

Second Year—First Semester.			Second Year—Second Semester.		
Differential calculus (Math. 7)	3		Integral calculus (Math. 8)	3	
General physics (Phys. 6, 2,)	5		General physics (Phys. 8, 4)	5	
Descriptive geometry 26	3		Statics 70	3	
Advanced surveying 102	2		Mine surveying 80	2	
Military science (3)	1		Military science (4)	1	
Mineralogy 89	1		Quan. analysis (Chem. 6)	4	18
Pipe fitting 10	1				
Mechanical drawing 25	2	18			

Summer work, Mine surveying 90—3

Third Year—First Semester.			Third Year—Second Semester.		
Heat engineering 120	3		Kinetics 72	3	
Mechanical laboratory 130	2		Mechanical laboratory 131	2	
Mechanics of materials 71	4		Hydraulics 73	2	
Coal mining 81	3		Coal mining 82	4	
Geology (Geol. 2 and 21)	3		Geology (Geol. 3 and 31)	4	
Economics (Econ. 115)	3		Money, banking and credits (Econ. 105)	2	
Engineering society 162		18	Engineering society 162	1	18

Summer work (out of residence), Summer practice 164—2

Fourth Year—First Semester.			Fourth Year—Second Semester.		
Mine ventilation 83	3		English (Eng. 14)	1	
Mining design 86	2		Mining design 87	3	
Structural engineering 144	3		Mine management 84	1	
Electrical eng'g 53 and 530	4		Electrical eng'g 54 and 540	4	
Metallurgy 85	2		Mining laboratory 95	3	
Metallurgical lab. 96	1		Cost accounting (Econ. 125)	2	
Business law 161	3		Engineering society 163	1	
Engineering society 163		18	Options from the list below	3	18
Thesis 99	3		Economic geology (Geol. 4)	3	
Concrete construction 147	3		Fuels 93	2	

UNDERGRADUATE CURRICULUM IN MINING ENGINEERING (OIL AND GAS OPTION)

Leading to the Degree of Bachelor of Science in Engineering of Mines.

First Year—First Semester.

Rhetoric and comp. (Eng. 1)	3	
Algebra and trigonometry (Math. 34)	5	
Inorganic chemistry (Chem. 1)	4	
Mechanical drawing 20	2	
Military science (1)	1	
Shop work 9	2	17
Engineering lectures		

First Year—Second Semester.

Rhetoric and comp. (Eng. 2)	3	
Trigonometry and analytical geometry (Math. 35)	5	
Land Surveying 100	3	
Inorganic chemistry (Chem. 2)	4	
Military science (2)	1	
Mechanical drawing 22	2	18

Second Year—First Semester.

Differential calculus (Math. 7)	3	
General physics (Phys. 6, 2)	5	
General geology (Geol. 2 & 21)	3	
Mineralogy 89	1	
Descriptive geometry 26	3	
Mechanical drawing 25	2	
Military science (3)	1	18

Second Year—Second Semester.

Integral calculus (Math. 8)	3	
General physics (Phys. 8, 4)	5	
Historical geology (3 & 31)	4	
Quan. analysis (Chem. 6)	5	
Military science (4)	1	18

Third Year—First Semester.

Mechanics 76	5	
Advanced surveying 102	2	
Organic chemistry (Chem. 9)	5	
Metallurgy 85	2	
Pipe-fitting 10	1	
Economics (Econ. 115)	3	
Engineering society 162		18

Third Year—Second Semester.

Mechanics 77	5	
Hydraulics 73	2	
Mine surveying 80	2	
Economic geology (Geol. 4)	3	
Field geology (Geol. 17)	3	
Money, banking and credits (Econ. 105)	2	
Engineering society 162	1	18

Summer work (out of residence), Summer practice 164—2
Summer work; Mine surveying 90—3

Fourth Year—First Semester.

Heat engineering 120	3	
Mechanical laboratory 130	2	
Oil and gas geology (Geol. 13)	3	
Coal mining 81	3	
Applied electricity 51	4	
Metallurgical laboratory 96	1	
Business law 161	3	
Engineering Society 163		19

Economic geology (Geol. 5)	3	
Concrete construction 147	3	
Coal mining 82	4	

Fourth Year—Second Semester.

Mechanical laboratory 131	2	
English (Eng. 14)	1	
Oil and gas production 92	2	
Oil and gas laboratory 97	2	
Cost accounting (Econ. 125)	2	
Engineering Society 163	1	
Options from the list below	7	17

Industrial chemistry (Chem. 19)	3	
Fuels 93	2	

GEOLOGICAL ENGINEERING AND OIL AND GAS PRODUCTION.

This option is planned to meet the needs of the engineer who is more interested in the geological aspect of mining than in the actual operation of a mining property. There is a growing demand for the so-called mining geologist who, while he has a thorough training in the fundamentals of engineering in general and of mining engineerng in particular, yet is specially qualified to work out the detailed geological features of mining properties and to make reports on them. This is peculiarly true in the case of oil and gas companies, where accurate geological knowledge in advance of actual drilling operations is of the greatest importance in the economical development of the field. Beside the opportunities offered by mining companies many of our railroads maintain corps of geologists while the several states and the federal government are continually carrying on geological investigations. This course also offers an excellent preparation for those who propose to carry on graduate work. Sufficient latitude in the selection of electives will be permitted to allow the course to conform to the needs of the individual student.

In the junior year the course differs from the coal mining option in that organic chemistry and geological courses are substituted for the courses in coal mining. A course in field geology in which the student prepares a geological map and a complete report on an assigned area enables him to apply the geological knowledge he received in his sophomore year. The fundamentals of mining are studied in the senior year as well. The study of oil and gas geology treats of the origin, properties, distribution and mode of accumulation of oil and gas, and familiarizes the student with all the available sources of information on this subject. The course in oil and gas production and oil and gas laboratory take up the subjects of the chemical and physical properties of petroleum and natural gas, their extraction and subsequent treatment, the valuation of oil and gas properties, reports on them, and the actual testing in laboratory of various oils, oil shales, and natural gas.

A thorough grounding in the fundamentals of business is afforded by the courses in economics, money, banking and credits, business law and cost accounting.

NOTE: See page 15, Special Curricula for Students with Irregular Preparation.

CHEMICAL ENGINEERING.

The object of the four-year course in chemical engineering is to qualify young men to design, build, and manage manufacturing plants in which the products of manufacture are based on chemical processes and to fit men for professional employment as industrial chemists and chemical engineers.

The curriculum outlined on the following page is designed to give the student a thorough knowledge of the fundamental principles of chemistry, a theoretical and practical training in mechanical engineering subjects including electrical engineering, and a thorough training in industrial chemistry and the more common engineering and industrial processes based on chemical reactions.

The course includes theoretical and analytical work in inorganic, organic and industrial chemistry, mathematics, physics, theoretical and applied mechanics, mechanical drawing, shop practice, structural engineering and industrial management, heat engineering, plant design, electrical engineering, mechanical and electrical laboratory, mineralogy and metallugy and work in the strictly chemical engineering subjects. The options in the senior year are in three groups; chemical engineering, geology and mining, and engineering administration. Thesis subjects will usually be selected from problems related to the development of the natural resources of West Virginia as foundations for chemical industries.

Students preparing to take the course in chemical engineering should present German for entrance. In order to provide time for a broader training in language, economics, history and science, and for additional courses in applied chemistry and engineering, students are recommended to take the combination Bachelor of Science and Engineering course. By a careful selection of electives both degrees may be secured in five years.

NOTE: See page 15, Special Curricula for Students with Irregular Preparation.

UNDERGRADUATE CURRICULUM IN CHEMICAL ENGINEERING.

Leading to the Degree of Bachelor of Science in Chemical Engineering.

First Year—First Semester.			First Year—Second Semester.		
Rhetoric and comp. (Eng. 1)	3		Rhetoric and comp. (Eng. 2)	3	
Algebra and trig. (Math. 34)	5		Trigonometry and analytical geometry (Math. 35)	5	
Inorganic chemistry (Chem. 1)	4		Surveying 101	1	
Military science (1)	1		Inorganic chemistry (Chem. 2)	4	
Mechanical drawing 20	2		Military science (2)	1	
Woodworking 1	1		Mechanical drawing 22	2	
Forging 7	1	17	Foundry 5	2	18
Engineering lectures					

Summer work, Machine shop 13—3

Second Year—First Semester.			Second Year—Second Semester.		
Differential calculus (Math. 7)	3		Integral calculus (Math. 8)	3	
General physics (Phys. 6, 2)	5		General physics (Phys. 8, 4)	5	
Descriptive geometry 26	3		Mechanism 27	2	
Military science (3)	1		Military science (4)	1	
Qual. analysis (Chem. 5)	4		Mechanism drawing 28	2	
Mechanical drawing 24	2	18	Quant. analysis (Chem. 6)	5	18

Summer work, Summer practice 164—2

Third Year—First Semester.			Third Year—Second Semester.		
Mechanics 76	5		Mechanics 77	5	
Thermodynamics 121	3		Machine design 35	2	
Mechanical laboratory 130	2		Machine drawing 36	2	
Organic chemistry (Chem. 9)	5		Mechanical laboratory 131	2	
Elect. and mag. (Physics 10)	3		Physical chem. (Chem. 21)	5	
Engineering Society 162		18	Industrial management 46	1	
			Engineering society 162	1	18

Fourth Year—First Semester.			Fourth Year—Second Semester.		
Electrical engineering 53	2		Electrical engineering 54	2	
Electrical laboratory 530	2		Electrical laboratory 540	2	
Indus. chemistry (Chem. 19)	2		Indus. chemistry (Chem. 22)	2	
Indus. chemistry (Chemistry Laboratory 175)	2		Chemical engineering 177	3	
Quan. analysis (Chem. 7)	3		English (English 14)	1	
Economics (Econ. 115)	3		Hydraulics 73	2	
Mineralogy 89	1		Engineering society 163	1	
Metallurgy 176	3		Options from list below	5	18
Engineering society 163		18			

Electrochemical Indus. 178	3		Cost accounting (Econ. 125)	2	
Biochemical industries 179	3		Business law 161	3	
Manufacture of benzene derivatives 180	2		Geology (Geol. 2)	3	
Thesis 185	2 to	5	Fuels 93	2	
Money, credit and banking (Econ. 105)	2		Oil and gas laboratory 97	2	
			Indust. application of elec. 65	3	

UNDERGRADUATE CURRICULUM IN INDUSTRIAL EDUCATION.

Leading to the Degree of Bachelor of Science.

The object of this course is to prepare young men and women to teach vocational subjects and to supervise vocational work in connection with the administration of the Smith-Hughes Act. The course of study is intended to give prospective students a broad practical education with special training in trade and industrial work and the science of teaching in order that they may be prepared to teach successfully trade and related subjects and the elementary non-vocational subjects in public schools, vocational high schools, night schools, part time schools, and schools in industrial plants.

The trade and industrial courses include the most common fundamental trades. The related subjects include physics, chemistry, mathematics and drawing. The non-vocational subjects include English, history, economics and sociology. The courses in the science and practice of teaching cover both the fundamental courses in education and their application to the teaching of vocational subjects.

The course is a new one and the exact requirements have not been definitely fixed. The provisional course outlined on the opposite page is intended to be suggestive rather than arbitrary. Reasonable departures may, with the approval of the faculty of the College, be permitted, but the course of study for any candidate for a degree must include ten hours in English, ten hours in mathematics, four hours in mechanical drawing, ten hours in education and a thorough knowledge of one or more trades.

Subjects marked with an asterisk will not be given during the years 1921-22 as applicants for the third and fourth years are not anticipated. The subjects omitted for 1921-22 have not been designated by number and are not announced under the head of Courses of Instruction.

Full recognition will be given for college work done at the normal schools of the state.

PROVISIONAL UNDERGRADUATE CURRICULUM IN INDUSTRIAL EDUCATION.

Leading to the Degree of Bachelor of Science.

First Year—First Semester.		First Year—Second Semester.		
Rhetoric and comp. (Eng. 1)	3	Rhetoric and comp (Eng. 2)	3	
Algebra and trigonometry (Math. 34)	5	Trigonometry and analytical geometry (Math. 35)	5	
Inorganic chemistry (Chem. 1)	4	Inorganic chemistry (Chem. 2)	4	
Military science (1)	1	Military science (2)	1	
Mechanical drawing 20	2	Mechanical drawing 22	2	
Woodworking 1	1	Woodworking 3	3	18
Forging 7	1			
General lectures	17			

Summer work (out of residence): Woodworking 210—3

Second Year—First Semester.		Second Year—Second Semester.		
English history (History 19)	3	American history (Hist. 29)	3	
General physics (Phys. 1 & 2)	4	General physics (Phys. 3 & 4)	4	
Descriptive geometry 26	3	Trade mathematics 203	2	
Machine shop 13	3	Mechanism 27	2	
Military science (3)	1	Military science (4)	1	
Foundry 5	2	Mechanism drawing 28	2	
Forging 8	2	18 Pattern making 4	2	
		Machine shop 14	1	
		Pipe-fitting 10	1	18

Summer work (out of residence): Machine shop 211—3

Third Year—First Semester.		Third Year—Second Semester.		
Economics (1)	3	Economics (2)	3	
English literature (Eng. 26)	2	English literature (Eng. 27)	2	
Philosophy of Education (Ed. 4)	3	Hygiene and sanitation 9	2	
Principles of study (Ed. 17)	3	Methods of teaching trades 201	3	
*Strength of materials	3	*Automobile repairs	2	
Empirical design 24	2	*Electrical construction 19	2	
Electrical construction 610	2	18 *Machine design	3	18

Summer work: Automobile repairs 212—3

Fourth Year—First Semester.		Fourth Year—Second Semester.		
Materials of commerce (24)	3	Labor problems (11)	3	
Sociology (1)	3	Vocational guidance 200	2	
Principles and art of teaching (Ed. 10)	3	Observation and practice teaching 206	3	
Practical work (Ed. 24)	2	Mental tests and meas. (Ed. 20)	3	
*Sheet metal work	2	*Sheet metal work	2	
*Plumbing	2	*Plumbing	2	
*Printing	2	17 *Printing	2	17

COMBINED SCENCE AND ENGINEERING CURRICULUM.

The following course of study is suggested for students who expect to take an engineering degree after receiving the degree of Bachelor of Science, or who wish to take a gneral course with engineering subjects as a major:

English composition (English 1 and 2)	6 hrs.
English literature (English 26 and 27)	4 "
Algebra and trigonometry	7 "
Analytical geometry and calculus	9 "
Physics 6, 2, 8, 4	10 "
Mechanics 70, 71, 72	10 "
Chemistry 1, 2 and 4	10 "
Descriptive geometry	3 "
Mechanical drawing	6 "
One foreign language	20 "
Botany, zoology, geology, or entomology, any one	8 "
History, economics, or commerce, any one	8 "
Military science (when required)	4 "
Electives, preferably in science and engineering, that count toward both the bachelor of arts and engineering degrees	23 "
Total	128 "

Students who expect to take a degree in civil engineering should include Geology 2 and 4, Land surveying 100, Mechanical drawing 25, Hydraulics 73, Applied electricity 51 and Shop work 9.

Applicants for a degree in mechanical or electrical engineering should include ten hours in shop work, Mechanical drawing 24 and 28, Mechanism 27, Surveying 100 and Physics 10.

Applicants for a degree in mining engineering should include Geology 2 and 4, Chemistry 6, Land surveying 100, Physics 10, Mineralogy 98, Shop work 9 and Mechanical drawing 24.

Students who wish to prepare for teaching science, engineering or industrial subjects, may with the approval of the Committee on Classification and Grades substitute eight hours in education for an equivalent amount of required vork in the science and history groups.

By following the above curriculum students may receive both the B.S. degree and the engineering degree in five years.

SPECIAL ENGINEERING CURRICULA.

1. **Elective Groups for Students in Other Colleges.** Candidates for degrees other than engineering degrees, and special students in any department of the University, are permitted to elect subjects in the College of Engineering, provided, in each case, they have had the subjects specified as prerequisites. S tudents who wish to take a general classical or scientific course of study before taking the engineering curriculum are advised to carry their mathematics as far as called for by the engineering curriculum, and to take some of their elective work in the College of Engineering. The engineering instructors will advise them what is best to elect.

Credits are given in the College of Arts and Sciences for the following engineering courses:

Subject	Credit Hours
Mechanical drawing 20-25, 28 or 30	8
Descriptive geometry 26	3
Industrial management 46, 47	4
Elements of electrical engineering 50	4
Applied electricity 51	3
Elements of electrical engineering 53, 54	4
Direct current machinery 52	4
Theory of alternating currents 55	3
Alternating current machinery 56	3
Electrical laboratory 530, 540, 560, 600	4
Applied electricity in home and office 66	2
Statics 70	3
Mechanics of materials 71	4
Hydraulics 73	2
Dynamics 72	3
Metallurgy 85, 96	3
Land surveying 100 and 101	3
Thermodynamics 121	3
Heating and ventilating 127	3
Heat engines 122	3

In addition to the above the student may elect with the consent of his class officer, when his major subject is physics or education:

Engineering 1-18 (Mechanic arts)	10
Mechanical drawing 20-25, 28 or 30	3

2. **Partial Curriculum.** Students who have not the time or are otherwise unable to take a full curriculum, will be allowed to take a special or partial curriculum, consisting of such studies as they are prepared to take, provided that such curriculum shall have been approved by the class officer. For further information see statement of requirements for admission as special students.

SUMMER TERM.

A summer term lasting six weeks is given immediately after the close of each collegiate year. The following regular engineering courses will be offered at that time: Woodworking 1, 2, 3; Forging 7 and 8; Pipe fitting 10; Machine tool work 13 and 14; Machine construction 15; Mechanical drawing 20, 22, and Surveying 109; Railroad surveying 110 and Mine surveying 90.

Surveying 109 is given during the first week (eight hours per day for six working days) and Railroad surveying continues for two weeks. Mine surveying 90 will follow Surveying 109 for two full weeks. Machine shop 13 may be completed by full time work covering the first three weeks or may be distributed over the full term of six weeks. Hours 8:00 to 12:00, 1:00 to 5:00 every week day except Saturday afternoon. Special hours for students taking less than full work will be arranged.

Students in mechanical and electrical engineering should take Machine tool work 13, three hours in the Summer Term following the freshman year.

This work, with that taken during the preceding freshman and the following sophomore collegiate years will enable students to fill positions in shops, factories, etc., during the two other vacations with better financial advantage and with far better results in the way of practical engineering experience than if the summer work is postponed until the second vacation. Students not taking the summer shop work in the first summer term will take Machine tool work 13 (2 hrs.) during the sophomore year and will then take the remaining two hours of Machine tool work 12 and 14 and pipe fitting 10 during the second summer term.

Students in civil and mining engineering should take the residence courses in surveying at the time scheduled, but Summer Practice 164 may be taken out of residence during any vacation period.

Students who are regular in their work are urged to spend all their vacation periods in practical work, but students who are irregular or have conditions should so far as possible take advantage of the summer school to make up their deficiencies.

In cases where students have exceptional opportunities in the way of practical summer work in commercial machine shops and engineering corps, along the line covered by the University courses, credit will be given for such work, the amount to be determined after an examination of each individual case.

CURRICULA FOR GRADUATE STUDENTS IN ENGINEERING.

Graduate courses lead to the professional degrees of Master of Science in Civil Engineering, Master of Science in Mechanical Engineering, Master of Science in Electrical Engineering, and Master of Scence in Engineering of Mines, respectively. They consist of advanced engineering courses aggregating twenty-four semester hours and a thesis, and require one year of resident study and work at the University.

A candidate for a professional degree is required to have completed the prescribed four year curriculum of undergraduate study in that department of the college in which he proposes to take a degree, or to have completed such a curriculum or its equivalent at some other institution of recognized standing, conferring the same or an equivalent baccalaureate degree. In the latter case, the diploma and other certificates of proficiency should be presented.

There is no fixed curriculum of subjects for any of these degrees, but the curriculum of study or investigation is arranged to suit the needs of each candidate, subject to the University regulations governing candidates for the master's degree. (See Catalogue). Each candidate for a degree must select his major subject in the department in which his degree is to be taken and submit a thesis showing attainment in some phase of this subject.

PROFESSSIONAL DEGREES FOR WORK IN ABSENTIA.

The University confers the following professional degrees: Civil Engineer (C.E.), Mechanical Engineer (M.E.), Electrical Engineer (E.E.), and Engineer of Mines (E.M.), upon graduates of the College of Engineering of the West Virginia University on the basis of practical experience and study in absentia, the presentation of a thesis and an oral final examination.

To be eligible a candidate for a professional degree must have been in active practice of his profession for at least five years since receiving his first degree and must have been in responsible charge of important work for at least two years, and must be qualified to design as well as direct engineering work.

Application for registration as a candidate for a degree should be made not later than the first day of October in the year in which the degree is expected.Detailed regulations and registration blanks may be obtained from the Dean of the College of Engineering.

COURSES OF INSTRUCTION.

In the following announcements, the name of the course is followed by its credit value in semester hours. A credit of one semester hour is given for a lecture or recitation course meeting one hour per week for one semester and requiring two hours of peparation for each lecture or recitation.

Credit for practical work in the shops, drawing rooms, laboratories and field, is given on the basis of the actual time required, including the preparation of reports and the writing of notes, three hours actual work counting as one recitation hour.

Courses starred (*) may be taken as graduate work by students in colleges other than the College of Engineering.

DRAWING, MACHINE DESIGN AND CONSTRUCTION.

Professors HAYES and GILL, Assistant Professor GROW and Messrs. WEST, SEAMAN, C. H. CATHER, H. M. CATHER, WHITE, CARL, BROOKS, STILLMAN and GNAGEY.

2. **Woodworking.** (1 Hr.) Optional for candidates for engineering degrees. Instruction in carpentry; exercises with the fundamental edge tools in soft and hard woods and in making typical framed work; wood turning; face plate work; boring, finishing, and polishing.

Either semester; two three hour periods weekly, one-half semester only: Messrs. SEAMAN and STILLMAN. (Also given in Summer Term.)

2. **Woodworking.** (1Hr.) Optional for candidates for degrees in the College of Agriculture. Includes instruction in carpentry; exercises with fundamental edge tools in soft and hard woods, with especial attention to the making of typical framed structures.

Second semeseer; T. Th., 8:00-10:00; Mr. SEAMAN, 203 M. H. (Also given in Summer Term.)

3. **Woodworking.** (3 Hrs.) Advanced work for vocational students and special students, who are allowed to specialize along the lines of their choice. Prerequisite: Woodworking 1 or 2.

Second semester; hours to be arranged; Mr. SEAMAN. (Also given in Summer Term.)

4. **Pattern Making.** (2 Hrs.) Required of all candidates for degrees in electrical and mechanical engineering. The production of patterns for castings for machine construction and other work to be executed later in machine shop. Prerequisite: Woodworking 1, and Foundry 5.

Either semester; two three hour periods weekly; Messrs. SEAMAN and STILLMAN.

5. **Foundry Work.** (2 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. Floor, bench and machine molding; core room work; mixing of iron, brass and aluminum for melting.

Either semester; two three hour periods weekly; Messrs. SEAMAN and CARL.

6. **Foundry Work.** Advanced work for special students. Continuation of Foundry 5.

Semester and hours to be arranged; Messrs. SEAMAN and CARL.

7. **Forging.** (1 Hr.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. Instruction in the care of forges; forming and welding of iron and steel; and hardening, tempering and annealing of steel.

Either semester; two three hour periods weekly, one-half semester only; Mr. WEST.

8. **Forging.** Advanced work for special students. Continuation of Forging 7.

Hours to be arranged; Mr. WEST.

9. **Shop Work.** (2 Hrs.) Required of all candidates for degrees in civil engineering and engineering of mines. Instruction in woodwork, forging, and machine shop practice.

First semester; two three hour periods weekly; Professor GILL and Messrs. WEST and SEAMAN.

10. **Pipe Fitting.** (1 Hr.) Required of all candidates for degrees in mechanical and mining engineering.

Either semester; two three hour periods weekly, one-half semester only; Mr. WEST.

11. **Machine Tool Work.** (2 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. Hand work and elementary machine work. Lectures and shop practice.

Either semester; two three hour periods weekly; Professor GILL and Mr. GNAGEY.

12. **Machine Tool Work.** (1 Hr.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. A continuation of Machine Tool Work 11, which is a prerequiste. Lectures and shop practice.

Either semester; two three hour periods weekly, one-half semester; Professor GILL and Mr. GNAGEY.

13. **Machine Tool Work.** (3 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. Hand work and elements of machine work. Lectures and shop work.

Summer term, 8 hours per day for three weeks or four hours per day for six weeks; Professor GILL and Mr. GNAGEY.

14. **Machine Tool Work.** (1 Hr.) Required of all candidates for degrees in mechanical engineering. A continuation of Machine Tool Work 11 and 12 or Machine Tool Work 13 which is a prerequisite. Advanced work on lathe, planer, milling machine, grinder and special machines.

Either semester; two three hour periods weekly for one-half semester; Professor GILL and Mr. GNAGEY.

15. **Machine Construction.** (2 Hrs.) Required of all candidates for degrees in mechanical engineering. Continuation of Machine tool work 14 with special attention to assembling, fitting and erecting of machines. Study of principles of heat treatment. Lectures and shop work.

First semester; two three hour periods weekly; Professor GILL, and Mr. GNAGEY.

16. **Shop Methods.** (2 Hrs.) Required of all candidates for degrees in mechanical engineering. A continuation of Machine construction 15. A study of manufacturing methods for limited and quantity production; building and use of jigs, fixtures, templates, gages, tooling and operation of automatic machine tools, turret lathes and production machines. Shop laboratory work, lectures, inspection trips, special investigations.

Second semester; two three hour periods weekly; Professor GILL and Mr. GNAGEY.

17. **Machine Construction.** Advanced work for special students. Continuation of Machine construction 15 and Shop methods 16.

Hours to be arranged; Professor GILL.

*20. **Mechanical Drawing.** (2 Hrs.) For freshmen. Required of all candidates for engineering degrees. Care and use of drawing instruments, plain lettering, including proficiency in at least one style, orthographic projection, isometric projection.

First semester; two three hour periods weekly; Assistant Professor GROW, and Messrs. C. H. CATHER, H. M. CATHER, WHITE, and BROOKS.

*21. **Mechancal Drawing.** (2 Hrs.) Primarily for students in home economics. Use of drawing instruments, practice in reading of drawings, designing and drawing of furniture and of room and house plans.

First semester; Professor HAYES, 207 M. H.

*22. **Mechanical Drawing.** (2 Hrs.) For Freshmen. Required of all candidates for engineering degrees. Continuation of Mechanical Drawing 20. Tracing, engineering sketches and working drawings from models, and drawing machine parts from proportions obtained from empirical formulas.

Second semester; two three hour periods weekly; Assistant Professor GROW and Messrs. C. H. CATHER, H. M. CATHER, WHITE, and BROOKS.

*23. **Mechanical Drawing.** (2 Hrs.) Elective for students in agriculture. Use of drawing instruments, practice in reading of drawings, building plans, designing and drawing of framed structures and their details.

Second semester; Assistant Professor GROW.

*24. **Empirical Design.** (2 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. Continuation of Mechanical Drawing 22. Detail and assembly drawings from proportions obtained from empirical formulas. Also a study of the purpose, characteristics, and stock sizes of various standardized machine parts.

First semester; two three hour periods weekly; Assistant Professor GROW and Messrs. C. H. CATHER, H. M. CATHER, and BROOKS.

*25. **Mechanical Drawing.** (2 Hrs.) Required of all candidates for degrees in civil engineering and engineering of mines. Continuation of Mechanical Drawing 22. Drawing room conventions for representation of materials, details of topography, wooden framing, structural steel shapes and framing, etc., lettering of titles, map tracing.

First semester; two three hour periods weekly; Assistant Professor GROW and Messrs. C. H. CATHER, and H. M. CATHER.

*26. **Descriptive Geometry.** (3 Hrs.) Required of all candidates for engineering degrees. Orthographic projection in the four quadrants; problems of the point; line and plane; tangencies; intersection of plane and curved surfaces; developments of single curved surfaces. Prerequisite: Mechanical Drawing 20, and Solid Geometry.

First semester; three periods weekly; Professor MORRIS, Assistant Professor GROW, and Messrs. C. H. CATHER and H. M. CATHER.

27. **Mechanism and Machinery.** (2 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. To accompany Mechanism Drawing 28. Analysis and classification of mechanisms; diagrams of relative velocities of machine parts; transmission and change of motions. Lectures and recitations. Prerequisites: Mechanical Drawing 22, and Descriptive Geometry 26.

Second semester; two periods weekly; Assistant Professor GROW and Messrs. C. H. CATHER, H. M. CATHER and WHITE, 208 M. H.

28. **Mechanism Drawing.** (2 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. To accompany Mechanism and Machinery 27. Drawing and diagrams of mechanical movements, velocity diagrams, graphical solution of problems, design and drawing of gear teeth. Prerequisite: Mechanical Drawing 22, and Descriptive Geometry 26.

Second semester; two three hour periods weekly; Assistant Professor GROW and Messrs. C. H. CATHER, H. M. CATHER and WHITE.

35. **Machine Design.** (2 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. To accompany Machine Drawing 36. Elements of machine design, conventional and rational proportioning of parts; mechanics of machinery; influence of material and treatment on design. Prerequisites: Mechanics 71 and Mechanism and Machinery 27, and Mechanism Drawing 28.

Either semester; two periods weekly; Professor HAYES.

36. **Machine Drawing.** (2 Hrs.) Required of all candidates for degrees in electrical, mechanical and chemical engineering. To accompany Machine Design 35. Designing and drawing of machine elements and finally of complete machine.

Either semester; two three hour periods weekly; Professor HAYES and Mr. WHITE.

37. **Advanced Machine Design.** (2 Hrs.) Required of all candidates for a degree in mechanical engineering. Continuation of Machine Design 35. To accompany Designing and Drawing 38. Graphical solutions of problems in machine forces; theory of elasticity; dynamics of machines, governors, reciprocating parts, fly-wheels, running balance, whirling of shafts, etc. Lectures and recitations.

First semester; two periods weekly; Professor HAYES.

38. **Designing and Drawing.** (2 Hrs.) To accompany Advanced Machine Design 37.

First semester; two three hour periods weekly; Professor HAYES and Mr. WHITE.

39. **Steam Engine Design.** (2 Hrs.) Optional for fourth year students in mechanical engineering. To accompany Designing and Drawing 40. Detailed study of modern steam engine; comparison of rational and empirical formulae. Dynamics of machines; governors, valve gears, reciprocating parts and fly-wheels. Lectures and recitations. Prerequisites: Machine Design 35 and 37; and Machine Drawing 36 and 38.

Second semester; two periods weekly; Professor HAYES.

40. **Designing and Drawing.** (2 Hrs.) Optional for fourth year students in mechanical engineering. To accompany Steam Engine Design 39.

Second semester; two three hour periods weekly; Professor Hayes.

41. **Designing and Drawing.** (2 Hrs.) Required of all candidates for degrees in mechanical engineering. Continuation in the drawing room of Power-plant Design 123. Making of the working drawings showing the location of boilers, engines, auixliaries, piping, coal and ash handling machinery, etc.

Second semester; two three hour periods weekly; Professor Hayes.

44. **Metallography.** (3 Hrs.) Optional for senior students. Elements of metallography of iron-carbon and other ferrous alloys. Study of equilibrium diagram and transformation points with applications to heat treatment of steels used in engineering. Lectures, recitation and laboratory work.

Second semester; hours to be arranged; Professor Hayes; 209 M. H.

45. **Gas Engine Design.** (3 Hrs.) Optional for fourth year students in mechanical engineering. Prerequisite: Machine Design 35.

Second semester; hours to be arranged; Professor Hayes.

*46. **Industrial Management.** (1 Hr.) Required of all students in mechanical engineering. Elementary study of organization of industrial establishments, managements, systems of payment, cost keeping, distribution of overhead expenses, determination of cost of production, etc.

Second semester; one period weekly; Professor Hayes.

*47. **Industrial Engineering.** (3 Hrs.) Optional for fourth year students in mechanical engineering. Continuation of Industrial management 46, which is a prerequisite. Study of establishment, equipment and operation of the various types of industrial plants.

Second semester; three periods weekly; Professor Hayes.

49. **Thesis.** (3 Hrs.) Optional thesis requirement for the degree of B.S.M.E. The working out of some special problems in design or construction or both. See general thesis requirements, page 15.

Hours to be arranged; Professor Hayes.

ELECTRICAL ENGINEERING.

Professor FORMAN and Associate Professor HALL.

*50. **Elements of Electrical Engineering with Laboratory.** (4 Hrs.) Primarily for third year students in electrical engineering. Electric and magnetic units, electric and magnetic circuits and direct current measuring apparatus, with one laboratory period a week. Prerequisite: Physics 3.

First semester; Professor FORMAN.

*51. **Applied Electricity.** (4 Hrs.) Primarily for third year students in civil engineering. A brief course covering the principles and most important industrial applications of electricity. One laboratory period a week. Prerequisite: Physics 3.

Second semester; Associate Professor HALL.

*52. **Direct Current Machinery.** (4 Hrs.) To follow Engineering 50. Principles underlying design, construction and operation of direct current machinery. One laboratory period a week.

Second semester; Associate Professor HALL.

*53. **Elements of Electrical Engineering.** (2 Hrs.) A course for fourth year students in mechanical, mining and chemical engineering. A general study of the generation, transmission and utilization of electrical energy, and the characteristics of electrical machines. Accompanied by Electrical Engineering Laboratory 530. Prerequisite: Physics 10.

First semester; Professor FORMAN.

*530. **Electrical Engineering Laboratory.** (2 Hrs.) Laboratory measurements and tests on electrical apparatus to parallel and accompany class work of Electrical Engineering 53.

First semester; Professor FORMAN.

*54. **Elements of Electrical Engineering.** (2 Hrs.) A continuation of Engineering 53. Accompanied by Electrical Engineering Laboratory 540.

Second semester; Professor FORMAN.

*540. **Electrical Engineering Laboratory.** (2 Hrs.) Continuation of Electrical Engineering Laboratory 530 and to accompany Electrical Engineering 54.

Second semester; Professor FORMAN.

*55. **Alternating Current Theory and Measurements.** (3 Hrs.) A study of periodic currents and the application of vector analysis to circuits containing these currents. Alternating current measuring instruments and the measurements of single and polyphase power. One laboratory period bi-weekly. Prerequisite: Engineering 50.

Second semester; Professor FORMAN.

*56. **Alternating Current Machinery.** (3 Hrs.) Continuation of Engineering 55. Principles of design, construction and operation of single and polyphase machinery. Accompanied by Electrical Engineering Laboratory 560.

First semester; Professor FORMAN.

*560. **Electrical Engineering Laboratory.** (2 Hrs.) Experimental study of the characteristics of single and polyphase machines, inductance and capacity and their effects in a circuit. Efficiency and regulation tests of alternating current apparatus. To accompany Engineering 56.

First semester; Professor FORMAN.

57. **Electric Traction.** (2 Hrs.) A study of the equipment of electric railway installations with special treatment of transmission and signal systems for traction. Prerequisite: Engineering 56.

Second semester; Associate Professor HALL.

58. **Illumination and Signalling.** (2 Hrs.) Principles and practice of illumination. Elements of electrical transmission of intelligence over electric circuits. Prerequisite: Physics 3

First semester; Professor FORMAN.

590. **Electrical Design and Calculations.** (3 Hrs.) This course requires nine hours a week in the designing room and consists of problems especially selected to make the student proficient in design and calculations utilizing the laws of electric and magnetic circuits.

First semester; Associate Professor HALL.

600. **Advanced Electrical Laboratory.** (2 Hrs.) Laboratory investigation and experimental study of special problems intended to give the student practice in individual research work.

Second semester; Professor FORMAN.

610. **Electrical Construction.** (2 Hrs.) Special construction work assigned to student according to previous experience. Assignments, for reports, will be made by the instructor to engineering literature and to electrical equipment outside the University laboratories.

Lectures by men engaged in commercial work, as well as by instructors in the University will be arranged for.

63. **Electric Generation and Distribution.** (3 Hrs.) Analysis of factors to be considered in the selection of electrical generating and transmitting apparatus. Study of present and future market demands for power, load curves and factors governing the economics of substation, transmission and distribution of electrical energy. Study of rates, service and obligation to public, right of way, various types of generation units, switching apparatus and transmission lines. Prerequisite: Engineering 54.

First semester; Associate Professor HALL.

630. **Electric Generation and Distribution.** (3 Hrs.) To follow Engineering 63. The design and layout in the designing room of generating, switching, sub-station equipment and transmission line.

Second semester; Associate Professor HALL.

640. **(G) Electrical Research.** For graduate students only. Laboratory investigations in special lines of electrical studies.

Hours and credits to be arranged; Professor Forman.

65†. **Industrial Applications of Electricity.** (3 Hrs.) The use of electricity in the various industries; motor drive, the electric furnace, electric welding, electric refining of metal, etc.

Factors governing the selection of the types and sizes of motors with their control. Reports upon subjects of special interest to individual students.

Second semester; Associate Professor HALL.

*66. **Applied Electricity in Home and Office.** (2 Hrs.) Primarily for students taking degrees not requiring higher mathematics. Meaning of common electrical terms; study of various methods of charging for electrical energy; advantages to be derived in the economical use of electricity.

Second semester; Associate Professor HALL.

67†. **High Tension Dielectric Phenomena.** (3 Hrs.) Study of the electrostatic field as influenced by conductors and dielectrics; the dielectric circuit for gaseous, liquid, and solid dielectrics; corona; theory and design of high voltage insulators. Prerequisite: Engineering 54.

Second semester; Professor FORMAN.

68†. **Telephone Engineering.** (3 Hrs.) Study of the various commercial systems of telephony, the installation, maintenance, testing and operation of telephone systems. Long distance and radio telegraphy. One laboratory period a week. Prerequisite: Engineering 54.

Second semester; Professor FORMAN.

69†. **Thesis.** (3 Hrs.) Special investigation or original research on some topic relating to electrical engineering.

Professor FORMAN and Associate Professor HALL.

62†. **Transients, Surges and Electric Waves.** (3 Hrs.) The study of transient phenomena such as occur in transmission lines and high tension generating and transforming apparatus. Theory of electromagnetic wave transmission over electric circuits and its application to aerial, subterreanean and submarine signalling.

Second semester; Professor FORMAN.

MECHANICS.

Professor BOOMSLITER, and Mr. FISHBECK.

*70. **Statics.** (3 Hrs. Required of all second year engineering students. A study of the composition and solution of forces, by analytical and graphical methods; moments, couples, equilibrium, center of gravity and moment of inertia, stresses in frames and jointed structures. Prerequisite: Integral calculus.

Second semester; Professor BOOMSLITER.

*72. **Kinetics.** (4 Hrs.) Required of all third year engineering students. Continuation of Statics 70. Laws of motion, centrifugal force; impulse, work, energy, power modulus of machines, revolving masses, impressed forces, motions of rigid bodies. Introduction to mechanics of materials. Prerequisite: Statics 70.

First semester; Professor BOOMSLITER.

*71. **Mechanics of Materials.** (3 Hrs.) Required of all third year Engineering students. Continuation of Courses 70 and 72. The strength and stiffness of the common materials of construction; cylinders and riveted joints; cantilever, simple, fixed and continuous beams; the design of simple structures. Prerequisite: Statics 70.

Second semester; Professor BOOMSLITER.

*73. **Hydraulics.** (2 Hrs.) Required of all engineering students. Theoretical pressure and energy of water; flow of water through orfices and tubes and over weirs; flow in conduit, pipes, canals, and rivers; current meters, water motor turbines. Prerequisite: Kinetics 72.

Second semester; Professor DAVIS.

76. **Mechanics.** (5 Hrs.) Includes Statics 70, and first half of Mechanics of materials 71.

First semester; Professor BOOMSLITER.

77. **Mechanics.** (5 Hrs.) Continuation of Course 76. Includes last half of Mechanics of materials 71 and Kinetics 72.

Second semester; Professor BOOMSLITER.

NOTE: Mechanics 76 and 77 are intended for students who have taken Mathematics 13 and 14 in the sophomore year.

MINING ENGINEERING.

Professor CALLEN.

80. **Mine Surveying.** (2 Hrs.) Location of outcrop, shaft plumbing and the various systems of mine surveying and note keeping. The accuracy of the field work is tested by plotting the notes. Prerequisite: Advanced surveying 102.

Second semester; Professor CALLEN.

81. **Coal Mining.** (3 Hrs.) Occurrence, composition and classification of coal; prospecting; explosives; shaft sinking; timbering; methods of working; coal cutting and loading machines. Prerequisite: Chemistry 6, Physics 8.

First semester; Professor CALLEN.

82. **Coal Mining.** (4 Hrs.) A study of the various systems of haulage, hoisting and pumping; surface plants; the preparation of coal for the market. Prerequisite Coal Mining 81.

Second semester; Professor CALLEN.

83. **Mine Ventilation.** (3 Hrs.) Mine air and mine gases; the ventilation of mines; mine lighting; a study of the causes and prevention of mine explosions; rescue and recovery work. Prerequisite: Coal Mining 81.

First semester; Professor CALLEN.

84. **Mine Management.** (1 Hr.) Mine economics, organization and care of labor, mine accounting and cost keeping, valuation of properties, welfare movements, etc. Prerequisites: Coal Mining 82.

Second semester; Professor CALLEN.

*85. **Metallurgy.** (2 Hrs.) General metallurgy; the metallurgy of iron and steel. Prerequisite: Chemistry 6.

First semester; Professor CALLEN.

86. **Mine Design.** (2 Hrs.) The projection of mine workings and the design of mining plants to meet given conditions; preparation of working drawings, and estimates of material and cost. Prerequisite: Coal Mining 82 and registration in Structural Engineering 144.

First semester; Professor CALLEN.

87. **Mine Design.** (3 Hrs.) Continuation of Mine Design 86, which is a prerequisite.

Second semester; Professor CALLEN.

89. **Elementary Mineralogy.** (1 Hr.) A study of the physical properties, entrance, occurrence, association and alteration of about one hundred of the common mineral species and varieties, particularly

the rock-forming minerals and those of economic importance. The object of this course is to enable one to recognize at sight the minerals that are likely to be met in connection with engineering work. Prerequisite: Chemistry 2.

First semester; Professor CALLEN.

90. **Mine Surveying.** (3 Hrs.) This course is given in the first three weeks following the end of the sophomore year. Practice supplementing Mine Surveying 80.

Summer term; eighteen working days, 8:00-12:00, and 1:00-5:00; Professor CALLEN.

92. **Oil and Gas Production.** (2 Hrs.) Leases and royalties; drilling and management of wells; valuation of oil and gas properties; reports on properties and prospects; size and scope of oil and gas companies; markets and supply; varities and uses of refinery and other products of oil and gas. Addresses by oil and gas producers and other experts. Prerequisite: Geology 13.

Second semester; Assistant Professor SCHEFFEL, 112 M. H.

93. **Fuels.** (2 Hrs.) A study of the manufacture and utilization of solid, liquid and gaseous fuels, wood, peat, coal, coke, petroleum and natural and artificial gas. Prerequisite: senior standing.

Second semester; Professor CALLEN.

95. **Mining Laboratory.** (3 Hrs.) Crushing, pulverizing, sizing and washing tests on various coals; special problems in cooking, briquetting, etc. Prerequisite: senior standing in mining engineering.

Second semester; Professor CALLEN.

*96. **Metallurgical Laboratory.** (1 Hr.) Coal sampling; proximate analysis of coal; analysis of mine air. Prerequisite: Chemistry 6.

Second semester; Professor CALLEN.

97. **Oil and Gas Laboratory.** (2 Hrs.) Calorimeter tests on oil and natural gas; the testing of lubricating oils; determination of viscosity and flash points; the analysis of gases; tests on the absorption and compresison methods of deriving gasoline from natural gas; etc. Prerequisite: Chemistry 9, Geology 13.

First semester; Professor CALLEN.

99. **Thesis.** (3 Hrs.) An individual problem on some phase of mining. None but exceptional students having high scholastic standing will be permitted to elect this course.

RAILWAY AND HIGHWAY ENGINEERING AND SURVEYING

Professor R. L. MORRIS, Mr. BRAGOINER and Mr. NELSON.

*100. **Land Surveying.** (3 Hrs.) Required of all candidates for degrees in civil and mining engineering. Theory and practice of land surveying. Lectures, recitations, field practice.

Second semester; Professor MORRIS and Mr. BRAGONIER.

*101. **Surveying.** (1 Hr.) Primarily for first year students. Required for degrees in mechanical and electrical engineering. Theory and use of the compass, transit and level, the laying out and measuring of areas and leveling. Prerequisite: Plane trigonometry.

Second semester; Professor MORRIS and Mr. BRAGONIER.

102. **Advanced Surveying.** (2 Hrs.) Primarily for second year students. Required of candidates for degrees in civil and mining engineering. Continuation of Surveying 100. Transit and stadia surveys, leveling; plane table, elementary hydrographic surveying and field astronomy.

First semester; Professor MORRIS.

103. **Topographical Surveying.** (2 Hrs.) Primarily for second year students. Required of candidates for degrees in civil engineering. Theory and practice of topography, hydrographic and barometric surveying. Lectures, recitations, field practice and map drawing. Prerequisite: Land surveying 100.

Second semester; Professor MORRIS.

104. **Railway Location.** (3 Hrs.) Primarily for third year students. Required of all candidates for degrees in civil engineering. Theory and practice of railroad surveying. Lectures, recitations, field work, and drawing. Searles' Field Engineering. Prerequisite: Land surveying 100.

First semester; Professor MORRIS.

105. **Railway Construction and Maintenance.** (3 Hrs.) Primarily for third year students. Required of all candidates for degrees in civil engineering. Tunnels, trestles, track-work, earth-work, signaling, grading, masonry, and drawing. Prerequisite: Railway location 104.

First semester; Professor MORRIS.

106. **Roads and Pavements.** (3 Hrs.) Primarily for fourth year students in civil engineering. Required of all candidates for degrees in civil engineering. Location, construction and maintenance; study and comparison of various types of roads; road making materials lectures, recitations and field work.

First semester; Professor MORRIS.

107. **Railroad Economy.** (2 Hrs.) Optional for fourth year students in civil engineering. General theory of railroad location; effect of grades, curvature, and distance on operating expenses and revenue; railroad finance and management.

Second semester; Professor MORRIS.

108. **Highway Economics.** (2 Hrs.) Optional for fourth year students in civil engineering. Continuation of Roads and pavements 106, with special reference to permanent improvements and maintenance of existing roads. Re-surveys, re-location, drainage, etc.

Second semester; Professor MORRIS.

109. **Surveying.** (1 Hr.) Required of candidates for degrees in civil and mining engineering. Surveying practice supplementing Courses Nos. 100, 102, and 103. Prerequisite: Topographical surveying 103.

Summer term; first six working days, 8:00-12:00, and 1:00-5:00; Professor MORRIS.

110. **Railroad Surveying.** (2 Hrs.) Required of candidates for degrees in civil engineering. Surveying practice supplementing Railway location 104. Prerequisite: Railway location 104.

Summer term; the first twelve working days, 8:00-12:00, and 1:00-5:00; Professor MORRIS.

113. **Thesis.** (3 Hrs.) Optional thesis requirement for the degree of B.S.C.E. (See page 143).

Second semester; hours to be arranged; Professor MORRIS.

STEAM, GAS, AND EXPERIMENTAL ENGINEERING.

Dean C. R. JONES and Professor GRUMBEIN.

120. **Heat Engineering.** (3 Hrs.) Required of third year students in civil engineering. Elementary thermodynamics, steam properties, calorimeters, fuels, boilers, engines, pumps, compressors, gas engines, turbines. Arranged for the selection design of parts of a plant. Prerequisite: Physics 7.

First semester; Professor GRUMBEIN.

*121. **Thermodynamics of Engineering.** (3 Hrs.) Primarily for third year men. Required of all candidates for degrees in mechanical, electrical and mining engineering. Mechanical theory of heat, thermodynamics of gases and vapors with special application to steam and other heat engines, compressed air and refrigeration. Prerequisites: Physics 6 and 2, and Integral calculus.

First semester; Professor GRUMBEIN.

*122†. **Heat Engines.** (3 Hrs.) Required of candidates for degrees in mechanical, electrical and mining engineering. Continuation of Thermodynamics 121. Expansive working of steam and gas, principles of design, construction and operation of steam engines, air compressors, gas engines, and refrigerating machines.

Second semester; Professor GRUMBEIN.

123. **Power Plant Design.** (3 Hrs.) Open to fourth year and graduate students. Required of candidates for degrees in mechanical, and mining engineering. The study of steam, gas and hydro-electric plants; selection of prime movers and auxiliary machinery for central and isolated stations; location of the plant; arrangement, sub-division into units and installation;; economics, organization and management of power plants. Prerequisite: Thermodynamics 121.

First semester; Professor GRUMBEIN.

124. **Steam Boilers.** (2 Hrs.) Elective for seniors. Heating value of fuels, combustion, economical production of steam; application of theory and practice in the design of steam boilers, chimneys, and accessories; steam piping and distribution. Prerequisites: Machine design 35 and Thermodynamics 121.

Hours to be arranged; Professor GRUMBEIN.

125†. **Steam Turbines.** (3 Hrs.) Optional for fourth year students in mechanical engineering, and for graduate students. Flow of saturated and superheated steam and the theory and design of the steam turbine. Prerequisite: Heat engines 122.

Second semester; Professor GRUMBEIN.

126†. **Gas Engines and Gas Engineering.** (3 Hrs.) For fourth year and graduate students. Optional for fourth year students in mechanical engineering. The study of fuel gases, gas production and transmission, gas engines, etc. Prerequisite: Heat engines 122.

Second semester; Dean JONES.

*127†. **Heating and Ventilating.** (3 Hrs.) Open to fourth year and graduate students. Optional for students in mechanical engineering. Principles, comparative merits and design of various systems of ventilating, and heating by hot air, hot water, steam and electricity. A careful study of the systems in the different University buildings. Prerequisite: Thermodynamics 121, or Heat Engineering 120.

Second semester; Professor GRUMBEIN.

130. **Mechanical Laboratory.** (2 Hrs.) Primarily for third year students. Required of all candidates for degrees in engineering. Theory, calibration and use of steam engine indicators, steam gages, thermometers; calorimeter tests of coal and natural gas; testing lubricating oil; analysis of flue gases; efficiency tests of simple engines

and pumps. Prerequisite: Physics 6 and Statics 70, and accompanying Heat Engineering 120 or Thermodynamics 121.

First semester; Professors Grumbein, and Boomsliter.

131. **Mechanical Laboratory.** (2 Hrs.). Required of all candidates for degrees in engineering. Continuation of Mechanical laboratory 130. Tests of wrought iron, cast iron, steel, timber, stone, brick, cement, and concrete. Prerequisite: Mechanical laboratory 130 and Mechanics of materials 71.

Second semester; Professors Grumbein, and Boomsliter.

132. **Engineering Laboratory.** (2 Hrs.) Primarily for fourth year students. Required of all candidates for degrees in mechanical and mining engineering. Tests of boilers and engines, air compressers, fans, and blowers, hydraulic motors, steam heating apparatus, etc.; valve setting; oflw of steam through orifices and pipes; application of Hirn's analysis. Prerequisite: Mechanical laboratory 131.

First semester; Professor Grumbein.

133†. **Engineering Laboratory.** (2 Hrs.) Required of all candidates for degrees in mechanical and electrical engineering. Open to graduate students. Continuation of Laboratory 132. Combined tests of performances of boilers, engines, electrical and other power transmisison machinery; testing of power plans; special research work. Prerequisite: Engineering laboratory 132.

Second semester; Professor Grumbein.

134.(G) **Engineering Laboratory.** Open only to graduates. Commercial tests and research work. Prerequisite: Engineering laboratory 133. Credit will be given on the basis of the time spent in the laboratory and the progress of the students.

Hours to be arranged; Dean Jones and Professor Grumbein.

135. **Thesis.** (3 Hrs.) Optional thesis requirement for the degree of B.S.M.E. Investigation or original research on some special topic relating to steam, gas or experimental engineering.

Second semester; Dean Jones and Professor Grumbein.

136†. **Highway Laboratory.** Open to fourth year and graduate students in civil, mechanical and mining engineering. Testing of stone, brick, sand, clay, concrete and bituminous and other materials entering into road construction, etc. Credit will be given on basis of time spent in the laboratory and the progress of the student.

Hours to be arranged; Pro essor Grumbein.

STRUCTURAL AND HYDRAULIC ENGINEERING.

Professor DAVIS.

141. **Roofs and Bridges.** (4 Hrs.) Primarily for third year students. Required of all candidates for the degree of B.S.C.E. Design of beams, girders, roofs and bridge trusses both analytically and graphically. Complete design of a wooden roof truss, including detailed drawing. Prerequisite: Mechanics of materials 71.

Second semester; Professor DAVIS.

142. **Bridge Design.** (4 Hrs.) Primarily for fourth year students. Required of all candidates for the degree of B.S.C.E. Computations and drawings are made for the complete design of a riveted or pin-connected Pratt truss bridge. The computations determine the sections of all members, as well as the details, splices, riveting, etc. Prerequisite: Roofs and bridges 141.

First semester; Professor DAVIS.

143. **Advanced Structures.** (3 Hrs.) Primarily for fourth year students. Required of all candidates for the degree of B.S.C.E. Loading and stresses in cantilevers, continuous girders and trusses, swing bridges, and metal and concrete arches. Prerequisite: Roofs and bridges 141.

Second semester; Professor DAVIS.

144. **Structural Engineering.** (3 Hrs.) Primarily for fourth year students. Required of all candidates for the degree of B.S.E.M. (Coal mining option). A course of three recitations per week devoted to the study of the loads and stresses in simple beams, trusses and mine structures. Prerequisite: Mechanics of materials 71.

First semester; Professor DAVIS.

145†. **Steel Building Design.** (3 Hrs.) For fourth year and graduate students. Elective. Mill and office buildings of steel. Design of trusses, beams, columns, and bracing for all loads; critical study of details, methods of erection, weights and costs. A small mill building is completely designed and shop drawings made for same. Prerequisite: Roofs and bridges 141.

Either semester; Professor DAVIS.

146†. **Foundations and Masonry.** (3 Hrs.) Primarily for fourth year and graduate students. Required of all candidates for the degree of B.S.C.E. Sheet piling, coffer dams, cribs, metal cylinder piers, pneumatic caissons, open caissons, etc., building foundations and underpinning. Earth pressure, masonry and design of abutments, piers, gravity walls and spread footing Prerequisites: Mechanics of materials 71, and Mechanical laboratory 130.

First semester; Professor DAVIS.

147. **Concrete Construction.** (3 Hrs.) Primarily for fourth year students. Required of all candidates for the degree of B.S.C.E. Mechanics underlying the design of concrete beams and columns; experimental investigations and methods of construction; design of concrete buildings, reinforced concrete retaining walls and concrete arches. Prerequisites: Roofs and bridges 141.

Second semester; Professor DAVIS.

148. **Sanitary Engineering.** (2 Hrs.) Primarily for fourth year students. Required of all candidates for the degree of B.S.C.E. A study of the design, construction and maintenance of sewers and appurtenances, and of the modern methods of sewage disposal. Prerequisite: Hydraulics 73.

Second semester; Professor DAVIS.

149. **Water Supply Engineering.** (3 Hrs.) Primarily for fourth year students. Required of all candidates for the degree of B.S.C.E. The quantity of water required for cities and towns, hydrology of drainage basins, stream flow and ground supplies; design of reservoirs, standpipes, etc.; the quality of water and water purification. Prerequisite: Hydraulics 73.

First semester; Professor DAVIS.

150†. **Water Power Engineering.** (3 Hrs.) Primarily for fourth year and graduate students. Option. Design and construction of high masonry dams, analytically and graphically; stream flow, turbines, economics of water power development, etc. Prerequisite: Hydraulics 73.

Second semester; Professor DAVIS.

151†. **Hydraulic Measurements.** (1 Hr.) Primarily for fourth year and graduate students. Elective. Volume of water flowing in open channels by floats and current meters. Measurement of small quantities by orfices, weirs, and other devices. Periodicals searched for experimental data. Prerequisite: Hydraulics 73.

Either semester; Professor DAVIS.

152. **Thesis.** (3 Hrs.) For fourth year students. Optional thesis requirements for the degree of B.S.C.E. Special design, investigation or original research on some assigned topic relating to structural, hydraulic or sanitary engineering.

Second semester; Professor DAVIS.

153. **Sewage and Water Purification Works.** (2 Hrs.) Elective for fourth year students. A continuation of Courses 148 and 149. A detailed study of the principles and practice of the design and operation of water and sewage purification works. Prerequisites: Sanitary engineering 148 and Water supply engineering 149.

154(G). **Statically Indeterminate Structures.** (4 Hrs.) For graduate students. A continuation of Course 143. Study of various methods of design of statically indeterminate structures such as principle of least work, use of auxiliary load of unity, methods of angle changes, elastic deformation, etc. Theories of flat slabs; secondary stresses, etc. Prerequisite: Course 143.

Either semester; Professor DAVIS.

155(G). **Advanced Bridge Design.** (4 Hrs.) For graduate students. Computation and drawings made for some type of statically indeterminate structure. Prerquisite: Courses 143 and 142.

Either semester; Professor DAVIS.

156. **Materials of Construction.** (2 Hrs.) Primarily for fourth year students. Required of all candidates for the degree of B.S.C.E. A study of the materials used in engineering construction, including iron, steel, timber, concrete, stone, clay products, etc. Prerequisite: Mechanics of materials 71.

CHEMICAL ENGINEERING.

Professor HODGE.

175. **Industrial Chemistry Laboratory.** (2 Hrs.) Required of all candidates for degrees in chemical engineering. To accompany Chemistry 19. Laboratory tests and processes applied to the more important industrial chemicals; qualitative and percentage purity tests, refractive index, polaroscope, melting and boiling point determinations, and processes of purification.

Two three hour laboratory periods per week.

First semester; Professor HODGE.

176. **Metallurgy.** (3 Hrs.) Required of all candidates for degrees in chemical engineering. The mechanical and chemical principles applied in the separation of the more important metals from their ores; the treatment of refractories and cements. Prerequisites: Chemistry 6.

Two recitations and one three hour laboratory period per week.

First semester; Professor HODGE.

177. **Chemical Engineering.** (3 Hrs.) Required of all candidates for degrees in chemical engineering. Applications of the principles of engineering and chemistry to manufacturing chemical industries. Types of crushers, grinders, furnaces, extractors,, evaporators centrifuges, conveyors, stills, filters and dryers. Flow of materials and chemical control of the products. Study trips to neighboring manufacturing plants will constitute a portion of this course. Prerequisite: 175.

Two recitations and one three hour laboratory period per week.

Second semester; Professor Hodge.

178. **Electrochemical Industries.** (3 Hrs.) Primarily for seniors in chemical engineering. The use of electrical energy to refine metals and manufacture chemicals is considered from the standpoint of electrolytic, electric furnace, and electric arc processes.

Two recitations and one three hour laboratory period per week.

Second semester; Professor Hodge.

179. **Biochemical Industries.** (3 Hrs.) Primarily for seniors in chemical engineering. Engineering problems and chemical processes related to manufactures based on biological resources; wood distillation, pulp, paper and carbohydrate products, tannins, soaps, hydrogenation of oils, drying oils, terpenes, rubber and the fermentation industries. Prerequisite: Chemistry 9.

Two recitations and one three hour laboratory period weekly.

Either semester; Professor Hodge.

180†. **Manufacture of Benzene Derivatives.** (2 Hrs.) Elective for engineering seniors and graduate students. Principles applied and processes used in the manufacture of commercial products from coal tar; intermediates dyes, drugs and explosives. Methods of changing flow of materials in plant from production of dyes and drugs to explosives and war time necessities. Prerequisite: Chemistry 9.

One recitation and one three hour laboratory period weekly.

Either semester; Professor Hodge.

185†. **Thesis.** (2 to 5 Hrs.) Open only to senior chemical engineers and qualified graduate students. Some specific problem in engineering or industrial chemistry is selected for investigational and research work. Credit is given in proportion to time put in and results obtained. Subject to general theses conditions, page 15.

Either semester; Professor Hodge.

GENERAL AND MISCELLANEOUS.

165. **Engineering Lectures.** (No credit). Required of all freshmen in engineering. A series of lectures designed to acquaint the engineering student at the beginning of his course with the profession he has chosen. Factors determining choice of engineering as a profession; the various kinds of engineering and the ability, training, opportunities, and responsibilties involved in each; problems and difficulties of the engineering student; the engineering point of view as applied to the student's daily environment and college life.

First semester; W. 4:30 P. M. Dean JONES and Staff.

161. **Business Law.** (3 Hrs.) Open to fourth year and graduate students. Essentials of a contract; applications of the law of agency, sales, partnership, and private corporations; rights, duties, and liabilities of contractors; standard specifications.

First semester.

162. **Engineering Society.** (1 Hr.) Primarily for third year students. Required of all candidates for degrees in engineering. Membership, attendance and active participation in the Engineering Society. See special announcements, page 10.

Throughout the year; bi-weekly, Professor GRUMBEIN; 226 M. H.

163. **Engineering Society.** (1 Hr.) For fourth year and graduate students. Required of all candidates for degrees in engineering. Continuation of Engineering Society 162.

Throughout the year; bi-weekly, Professor GRUMBEIN; 226 M. H.

164. **Summer Practice.** (2 Hrs.) Required of all candidates for degrees in engineering. At least six weeks of practical experience in some branch of engineering activity, preferably of a character that will articulate with the student's major subjects. Students are recommended to spend all vacation periods in practical work but under exceptional circumstances the Faculty of the College of Engineering may permit the substitution of an approved practical course taken in residence. Application for summer credit should be made before beginning the work; and the work done should be certified and reported in accordance with the special rules for Summer Practice, on or before October 1st, after the work has been done. Work may be done during any vacation period.

INDUSTRIAL EDUCATION.

200. **Vocational Guidance.** (3 Hrs.) A course for teachers who desire suggestions and help in solving the problems of this important movement.

Second semester.

201. **Methods of Teaching of Trades.** (3 Hrs.) This course is designed to meet the needs of men and women who have charge of the instruction in trade classes in industrial schools and in commercial and manufacturing plants.

Second semester.

202. **Vocational Education.** (3 Hrs.) Discussion of the development of vocational education in Europe and the United States, and its organization, and administration under the Smith-Hughes Law.

Second semester.

203. **Trade Mathematics.** (2 Hrs.) The aim of this course is to give teachers an opportunity to become acquainted with the subject matter, and the methods of presenting it.

Second semester.

204. **Trade Science.** (2 Hrs.) A study of the application of physics and chemistry to trade work.

Second semester.

205. **Trade Drawing.** (2 Hrs.) Information will be given concerning the organization of courses for apprentices and tradesmen; methods of teaching; and the reading of blueprints and working drawings.

Second semester.

206. **Observation and Practice Teaching.** (3 Hrs.) The work will consist of observing classes taught by experienced teachers, planning lessons, and teaching under supervision.

Second semester.

207. **Observation and Practice Teaching.** (3 Hrs.) Planning lessons and teaching under supervision will be the work of this course.

Second semester.

210. **Woodworking.** (3 Hrs.) Required of all candidates for degrees in Industrial Education. The work of this course, which is to be performed out of residence for nine weeks during the summer vacation, is intended to give trade contact and practical experience to prospective teachers of trade classes. Application for credit is to be made before beginning work, and a report made upon a form to be supplied by the departmeit of vocational industrial education immediately after the completion of the work.

211. **Machine Shop.** (3 Hrs.) Required of all candidates for degrees in industrial education. The conidtions of this course are the same as those of Course 210.

212. **Automobile Repairs.** (3 Hrs.) Required of all candidates for degrees in industrial education. For conditions and description refer to Course 210.

COURSES FOR ENGINEERING STUDENTS IN THE COLLEGE OF ARTS AND SCIENCES.

Chemistry.

1. **Inorganic Chemistry.** (4 Hrs.) Primarily for freshmen in all the colleges. Prerequisite to all other courses in chemistry. Three recitation periods and two two-hour laboratory periods weekly.

Section A, for students who offer chemistry for entrance credit.

Section B, for students who do not offer chemistry for entrance credit.

Section C, for students who offer neither chemistry nor high school mathematics for entrance credit.

First semester; hours as announced in the semester schedule; Professor CLARK and staff.

2. **Inorganic Chemistry.** (4 Hrs.) A continuation of Course 1. Sections and recitation hours as in Course 1.

Second semester; hours as announced in the semester schedule; Professor CLARK and staff.

NOTE:—One unit of algebra and one unit of plane geometry are prerequisites for all courses in chemistry except Courses 1 and 2.

5. **Quantitative Analysis and Inorganic Preparations.** (4 Hrs.) Required of students whose major is chemistry and of students in chemical engineering. Three three-hour laboratory periods weekly, with occasional recitations and assignments in addition.

First semester; M. W. F., 2:00; Associate Professor HILL.

4. **Quantitative Analysis.** (2 Hrs.) Primarily for engineering students. Two three-hour laboratory periods weekly.

First semester; hours as shown in semester schedule; Associate Professors HUBERT HILL and SAMUEL MORRIS.

6. **Quantitative Analysis** (4 or 5 Hrs.) Required of students whose major is chemistry and of students in chemical and mining engineering. Students registered for the coal mining option will take only four hours credit. Four or five three-hour laboratory periods weekly.

Second semester; 2:00; Associate Professor HUBERT HILL.

7. **Quantitative Analysis.** (4 Hs.) A continuation of Course 6. Required of students whose major is chemistry and of students in chemical engineering. Prerequisites: Physics, 1, 2, 3, and 4; Mathematics 3 and 4. Four three-hour laboratory periods weekly.

Second semester; 2:00; Professor CLARK.

9. **Organic Chemistry.** (5 Hrs.) Required of students with major in chemistry, of students in chemical and mining engineering, and of premedical and pharmacy students. Three lectures and two three-hour laboratory periods weekly.

First semester; (for major students and for engineering students); M. W. F., 11:00; T. Th., 2:00; Professor CLARK.

19. **Industrial Chemistry.** (3 Hrs.) Open to major and graduate students and to students in chemical engineering.

First semester; M. W. F., 9:00; Professor CLARK.

22. **Industrial Chemistry.** (3 Hrs.) Open to major and graduate students and to students in chemical engineering.

Second semester; M. W. F., 9:00; Professor CLARK.

21. **Physical Chemistry.** (5 Hrs.) Required of major students. For graduate students and chemical engineering students also. Three lectures and two three-hour laboratory periods weekly.

Second semester; 2:00.

Economics.

115. **Principles of Economics.** (3 Hrs.) Required of juniors in engineering. A general course dealing with the fundamental principles which govern the consumption, production, distribution, and exchange of wealth.

First semester; hours to be arranged.

105. **Money, Credit and Banking.** (2 Hrs.) Required of juniors in engineering. The nature and functions of money; of credits and securities; principles of banking; financing of public service and industrial corporations and of public and private engneerng constructon work.

Second semester; hours to be arranged.

125. **Cost Accounting.** (2 Hrs.) Required of seniors in engineering. A study of the principles and methods of cost accounting with special reference to the point of view of the engineer. (Omitted in 1920-21).

Second semester; hours to be arranged.

English.

1. **Composition and Rhetoric.** (3 Hrs.) Primarily for freshmen. Required of all candidates for the bachelor's degree in all the colleges. Two themes weekly, conferences, recitations on text-books, class criticism of written exercises, lectures.

First semester; section M. W. F. at 8:00, 9:00, 10:00, 11:00 and 4:00; T. Th. S., at hous to be arranged; Professor BARBE, Associate Professor JOHNSON and staff.

2. **Composition and Rhetoric.** (3 Hrs.) Primarily for freshmen. Required of all candidates for the bachelor's degree in all the colleges. A continuation of Course 1 with more attention to rules and principles. Two themes weekly; study of prose masterpieces as models of style and as material for themes; conferences, recitations, class criticism of written exercises, lectures. Prerequisite: English 1.

Second semester; sections M. W. F., at 8:00, 9:00, 10:00, 11:00 and 4:00, T. Th. S., at hours to be arranged, Professor BARBE, Associate Professor JOHNSON and staff.

8. **Composition and Rhetoric.** (3 Hrs.) For students who have not received credit for Course 1 in the first semester. Not open to students who have passed Course 2 with a grade of 80% or more. practical study of composition with frequent written exercises and a study of prose models.

Second semester; M. W. F., 8:00; Miss LYTLE.

3. **Composition and Rhetoric.** (3 Hrs.) For students who have not received credit for Course 2 in the second semester. Not open to students who have passed Course 2 with a grade of 80% or more. Prerequisite: Course 1. Study of various types of prose composition with frequent written exercises and study of prose models.

First semester; M. W. F., 8:00; Mr. WILLIAMS.

14. **Technical English.** (1 Hr.) Primarily for seniors in the College of Engineering. Consideration of some special problems of technical composition, preparation, criticism, and revision of student exercises, reports, themes, etc., study of some good examples of technical literature.

Second semester; F., 10:00; Associate Professor JOHNSON, 24 W.

Geology.

2. **General Geology.** (3 Hrs.) Not open to freshmen. The surface features of the earth stratigraphy, and structural geology. Numerous excursions will be taken. Text-book, Pirrson and Schuchert. Prerequisite: Some knowledge of chemistry.

Either semester; first semester, section one, M. W. F., 11:00; Pro-

fessor Brown, 111 M. H.; section two, M. W. F., 10:00; Assistant Professor Scheffel, 111 M. H.; section three, M. W. F. 9:00; Associate Professor Tilton, 111 M. H.; second semester, M. W. F., 11:00; Professor Brown, 11 M. H.

21. **General Geology Laboratory.** (1 Hr.) Designed to accompany or follow Geology 2. A study of the commoner rocks and rock forming minerals; drawing of structural forms; interpretation of topographic maps; use of hand instruments. Size of class limited.

Either semester; Th., 10:00-12:00; Assistant Professor Scheffel.

3. **Historical Geology.** (3 Hrs.) Not open to freshmen. A condensed course that continues Geology 2. The history of the earth and its inhabitants as revealed in the rocks. Recitations and excursions. Text-book, Pirrson and Schuchert. Prerequisite: Geology 2. Some knowledge of botany and zoology is desirable.

Second semester; M. W. F., 10:00; Associate Professor Tilton, 111 M. H.

31. **Historical Geology Laboratory.** (1 Hr.) This course is arranged to accompany Geology 3, with special emphasis upon structural sections and areal geology, based upon reports and Geological Folios, and upon field data obtained by the class.

Second semester; W. 2:00-5:00; Associate Professor Tilton, 111 M. H.

4. **Economic Geology.** (3 Hrs.) Designed for juniors and seniors. Treats of the occurrence and distribution of the non-metallic minerals, with attention to the geology of coal, oil, and gas. Text-book, Ries Economic eGology. Prerequisite: Geology 2 or 6.

Second semester; M. W. F., Assistant Professor Scheffel; 111 M. H.

5. **Economic Geology.** (3 Hrs.) Designed for juniors and seniors. An account of the occurrence of ore deposits and the distribution of metallic minerals. Text-book, Ries. Prerequisites: Geology 2, or Geology 6.

Second semester; M. W. F., 10:00; Professor Brown; 113 M. H.

Mathematics.

Engineering students entering with only one unit in algebra will take review algebra (Mathematics 1) and Mathematics 3, 4, 6, 13 and 14 instead of Mathematics 34, 35, 7 and 8.

2. **Solid Geometry.** (4 Hrs.) If offered to remove condition one-half unit.

First semester; 8:00, Assistant Professor Allen; 4 W. H.

Second semester; 8:00, Assistant Professor Allen; 4 W. H.

34. **Advanced Algebra and Trigonometry.** (5 Hrs.) Intended primarily for engineering students. A short review of topics in elementary algebra; radicals and imaginaries. Theory of quadratic equations with applications. Graphic algebra, logarithms, arithmetic and geometric series, the binomial theorem, theory of equations and Horner's method of solving numerical equations. Definitions and fundamental properties of the trigonometric functions and solution of the right triangle.

First and second semesters; sections at 9:00, 10:00, 11:00; Professors EIESLAND and HODGSON and Assistant Professor ALLEN.

35. **Trigonometry and Analytic Geometry.** (5 Hrs.) Intended primarily for engineering students. A continuation of Course 34. Solution of the general plane and spherical triangles with application to the astronomical triangle, trigonometric equations; DeMoivre's theorum; certain topics in advanced algebra with introduction to infinitesimal calculus; derivatives of algebric functions; straight lines and conic sections.

Second semester; sections at 8:00, 9:00, and 11:00; Professors EIESLAND and HODSON and Assistant Professor ALLEN.

7. **Differential and Integral Calculus.** (3 Hrs.) Prerequisites: Courses 3, 4, 5, 6.

First semester; M. W. F., conference hours, T. Th., 8:00; Professor EISLAND.

8. **Differential and Integral Calculus.** (3 Hrs.) This course is a continuation of Course 7.

First semester; M. W. F., conference hours, T. Th., 8:00 Professor Eiesland.

Physics.

1. **Introductory Physics.** (3 Hrs.) Primarily for freshmen. Required of students in the College of Agriculture. The course is based on Kimball's College Physics and presents the fundamental principles of physics and their application to every day life. See Course 2 below. Prerequisite: Plane geometry.

First semester; lectures; M. W., 8:00; Professor WAGGONER, 14 M.; quiz sections.

2. **Introductory Physical Laboratory.** (1 Hr.) This course accompanies, and is required of all students who take Courses 1 and 6. The course consists of individual, quantitative determinations of the various physical constants, and occupies one laboratory period per week.

First semester; various sections as announced in the semester schedule; Associate Professor MOLBY and staff.

3. **Introductory Physics.** (3 Hrs.) A continuation of Course 1 which is a prerequisite. See Course 4 below.

Second semester; lectures; section one, M. W., 8:00; Professor WAGGONER, M., quiz section; Th., 8:00, F., 8:00 or F., 9:00.

4. **Introductory Physical Laboratory.** (1 Hr.) A continuation of Course 2, which is prerequisite.

Second semester; various sections as announced in semester schedule; Associate Professor MOLBY and staff.

6. **General Physics.** (4 Hrs.) Required of all candidates for engineering degrees, and recommended for all students in the College of Arts and Sciences who elect physics from the science group. Not open to students who have credit for Course 1. The derivation of the mathematical statements of the laws of physics and their application to the solution of engineering problems. Prerequisites: Mathematics 3 and 4. No student is permitted to take this course without its accompanying laboratory exercise, which is Course 2.

First semester; T. W. Th. F., 9:00; Professor WAGGONER and Associate Professor MOLBY; 14 M.

8. **General Physics.** (4 Hrs.) A continuation of Course 6 which is a prerequisite. Not open to students who have credit for Courses 1 and 3. No student is permitted to take this course without its accompanying laboratory exercise which is Course 4.

Second semester; T. W. Th. F., 9:00; Professor WAGGONER *and* Associate Professor MOLBY; 14 M.

55. **Problems in Physics.** (2 Hrs.) This course is a discusison of problems for students in engineering.

First semester; Th. F., 9:00; Associate Professor MOLBY; 6 M.

56. **Problems in Physics.** (2 Hrs.) A continuation of Course 55.

Second semester; Th. F., 9:00 Associate Professor MOLBY; 6 M.

10. **Electrical Measurements.** (3 Hrs.) This course is designed for, and required of the candidates for the degree of B.S.M.E., and B.S.Chem.E. It consists of the study of photometry, magnetic properties of materials, the theory, calibration, and use of various electrical instruments. Prerequisites: Physics 6, 2, 8, and 4 and integral calculus.

First semester; T. Th., 10:00 Laboraory, W., 2:00-4:00; Professor WAGGONER; 14 M.

SUMMER AND EXTENSION COURSES.

COURSES IN VOCATIONAL INDUSTRIAL EDUCATION AT THE SUMMER SESSION OF WEST VIRGINIA UNIVERSITY.

The following courses will be offered during the summer sessions: Vocational Guidance, Methods of Teaching in Trade and Industrial Schools and Classes, the Development, Organization, and Administration of Vocational Education, Carpentry, Cabinet Making, Forging, Foundry, Machine Tool Work, Sheet Metal Work, and Industrial Arts for the Grades.

EXTENSION COURSES OFFERED BY THE DEPARTMENT OF VOCATIONAL INDUSTRIAL EDUCATION.

Courses in English, Trade Drawing, Trade Mathematics, Trade Science, Methods of Teaching, and the Organization and Administration of Vocational Education will be offered in the teacher training centers—Charleston, Clarksburg, Fairmont, Grafton, Huntington, Morgantown, and Wheeling—by the staff of the extension department during the years 1921-1922.

MINING EXTENSION COURSES.

Extension courses in mining are offered under the direction of the University at various mining towns throughout the state. The instruction in these courses is carried on by a University extension instructor who visits each center every week. At the present time the work is planned on a two-year basis to cover the following unit courses: Mine Gases, Safety Lamps, Ventilation, Timbering, Explosives, Haulage, and Drainage and Pumping. There is particular emphasis placed on safety features, state mining law and applications of arithmetic in each of these unit courses.

SUMMER SCHOOL IN MINING.

The Short Course in Coal Mining offered by the Department of Mining Engineering gives an opportunity to operators, officials and employes of the mining companies to obtain instructon pertaining to their work. The subjects covered in the Short Course are: explosives, methods of working, timbering, mine gases, mine ventilation, hoisting, haulage, mine drainage, safety lamps, mine management, electricity in mines, mine fires and explosions, requisitions and forms, mining arithmetic, and elementary mechanical drawing.

Special attention is given to students desirous of preparing themselves for the teaching of mining classes under the Smith-Hughes Act.

Through the co-operation of the United States Bureau of Mines instruction in first aid and mine rescue work is given by the instructors of one of the Rescue Cars of the Bureau. The car is placed at Morgantown for two or three weeks of the Short Course for the express purpose of giving this training to the students.

At the close of the Short Course the Department of Mines of West Virginia will hold an examination for mine foremen and firebosses.

Tuition is free. It is believed that $60 should cover all necessary expenses for the six weeks, excluding traveling expenses.

The ninth annual session of the Short Course in Coal Mining will begin on Monday, June 20, and continue until Saturday, July 30, 1921. For further information write for circular giving full details.

THE COLLEGE OF AGRICULTURE

FACULTY AND STAFF.

FRANK BUTLER TROTTER, A.M., LL.D., *President of the University.*

JOHN LEE COULTER, A.M., PH.D., *Dean and Director of the Experiment Station.*

THOMAS CLARK ATKESON, PH.D., *Professor of Animal Husbandry. Emeritus.*

LEONARD MARION PEAIRS, PH.D., *Professor of Entomology.*

CHARLES HERMAN WINKLER, PH.D., *Professor of Vocational Agricultural Education and State Supervisor of Vocational Agriculture.*

NAHUM JAMES GIDDINGS, PH.D., *Professor of Plant Pathology.*

ERNEST LEE ANTHONY, B.S.AGR., M.S., *Professor of Dairy Husbandry.*

EDWARD ALEXANDER LIVESAY, M.S.AGR., *Professor of Animal Husbandry.*

RACHEL HARTSHORN COLWELL, A.M., *Professor of Home Economics.*

JOSEPH HARVEY GOURLEY, M.S., *Professor of Horticulture.*

ROBERT MUNDHENK SALTER,[1] M.S., *Associate Professor of Agronomy.*

CHARLES AUGUSTUS LUEDER, D.V.M., *Associate Professor of Veterinary Science.*

ANDREW JACKSON DADISMAN, B.S.AGR., M.S., *Associate Professor of Farm Economics.*

EDGAR LEWIS ANDREWS, B.S.AGR., *Associate Professor of Poultry Husbandry.*

HARRY EDWARD KNOWLTON, PH.D., *Associate Professor of Horticulture.*

[1] Resigned.

RALPH JOHN GARBER, M.S., *Associate Professor of Agronomy.*

EUGENE PEYTON DEATRICK, PH.D., *Associate Professor of Soils.*

ROSCOE ELMO STEPHENSON,[1] M.S., *Assistant Professor of Agronomy.*

HARRY WYATT RICHEY,[1] B.S.,AGR., *Assistant Professor of Horticulture.*

HARRY ORAM HENDERSON, M.S., *Assistant Professor of Dairy Husbandry.*

HARLEY LUCIUS CRANE, B.S.AGR., M.S.AGR., *Associate Professor of Horticulture.*

ROLAND HARRISON PATCH, M.S., *Assistant Professor of Horticulture.*

HOWARD B. ALLEN, M.S., *Assistant Professor of Agricultural Education.*

ROSWELL PAGE BLEDSOE,[1] M.S., *Assistant Professor of Agronomy.*

MARION FLORILLA BRECK, M.S., *Assistant Professor in Education and Home Economics.*

KYLE CHESTER WESTOVER, B.S., *Assistant Professor of Horticulture.*

THEODORE E. ODLAND, B.S.AGR., *Assistant Professor of Agronomy.*

ERNEST ANGELO, B.S.AGR., *Instructor in Horticulture.*

PAUL CHARLES ROUZER, B.S.AGR., *Instructor in Agricultural Education.*

CHARLES VINYARD WILSON, B.S.AGR., *Instructor in Animal Husbandry.*

EDITH IRENE HESS, B.S.H.E., *Instructor in Home Economics.*

ELEANOR REED MACLAY, B.S. in EDUC., *Instructor in Home Economics.*

MARY ALICE MILNER, B.S.H.E., *Instructor in Home Economics.*

FRANCES MARGARET YOUNG, B.S., *Instructor in Home Economics.*

MONT FRANCIS MORGAN, B.S.AGR., *Instructor in Soils.*

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[1] Resigned.

BERT HOLMES HITE, M.S., *Chemist.*

WILLIAM EARL RUMSEY, B.S.AGR., *State Entomologist.*

HORACE ATWOOD, M.S.AGR., *Poultryman.*

THEODORE CLINTON McILVAINE,[2] M.S., *Assistant Agronomist in Charge of Huntington Sub-Station.*

LUTHER FRANCIS SUTTON, B.S., B.S. AGR., *Assistant Horticulturist and Superintendent of Reymann Memorial Experimental Farm.*

ANTHONY BERG,[2] B.S., *Assistant Plant Pathologist.*

CHARLES EDWARD WEAKLEY, JR., *Assistant Chemist.*

FRANK BATSON KUNST, A.B., *Assistant Chemist.*

ROSS HOLMAN TUCKWILLER,[2] B.S.AGR., *Assistant in Beef Cattle Investigations.*

BENJAMIN B. KAPLAN, A.B., *Assistant Chemist.*

THOMAS JOSEPH COCHRANE, B.S., *Assistant Chemist.*

THEODORIC BRYANT LEITH, A.B., *Assistant Chemist.*

JAMES HARVEY SHAFFER, B.S.AGR., *Assistant Farm Economist.*

EVERETT CHARLES SHERWOOD, M.S., *Assistant Plant Pathologist.*

JOHN CHARLES JOHNSTON, *Chief Clerk of Experiment Station.*

NAT TERRY FRAME,[2] B.A., *Director of Agricultural Extension, in Charge Rural Organization.*

HU SWISHER VANDERVORT,[2] B.S.AGR., *Assistant Director, in Charge Agronomy, Horticulture and Dairy Extension.*

BELTON BONNER EZELL,[2] B.S., *Assistant Director, in Charge Livestock Extension.*

WILLIAM HENRY KENDRICK,[2] B.S., *Assistant Director, in Charge 4-H Clubs.*

CHARLES HENRY HARTLEY, B.S.AGR., *Assistant Director in, Charge Extension Schools, Institutes, Exhibits, etc.*

MARION HEPWORTH,[1] B.S., *Assistant Director, in Charge Home Economics Extension.*

CHARLES ELLSWORTH STOCKDALE, B.S.AGR., *Agricultural Editor.*

EDWARD LEE SHAW,[2] B.S.AGR., *Extension Specialist in Sheep.*

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[1] Resigned.
[2] In cooperation with United States Department of Agriculture.

KATHRYN ALGER,[1] B.S., *in Charge Girls' Club Work.*

BENJAMIN FRANKLIN CREECH, B.S.AGR., *Extension Specialist in Beef, Cattle and Hogs.*

RALPH LEON MASON, *Extension Specialist in Poultry.*

DAVID ROLLIN DODD, B.S.AGR., *Extension Specialist in Agronomy.*

HUGH WILLARD PRETTYMAN, B.S., AGR., *Packing School Superintendent.*

DEE CRANE, *Extension Specialist in Potatoes.*

ENOS JOHNSON PERRY,[2] B.S.AGR., *Extension Specialist in Dairying.*

THOMAS DAVIS GRAY, B.S., *Extension Specialist in Horticulture.*

EVERETT CHARLES SHERWOOD, M.S., *Extension Specialist in Plant Diseases.*

MARGARET FORD, B.S.H.E., *District Home Demonstration Agent.*

HAZEL M. HORSEFALL, B.S.H.E., *Assistant in 4-H Club Work.*

FRANCES FOLSOM McGUIRE, A.B., M.A., *District Home Demonstration Agent.*

ROSS BRADSHAW JOHNSTON, *in Charge University News Service.*

JEANNETTA WEIL, *Chief Clerk, in Charge Clerks and Stenographers.*

FACULTY COMMITTEES.

AGRICULTURIAL STUDENTS' COURSES AND HOURS: Dean COULTER, Professors WINKLER, PEAIRS, and ANTHONY.

HOME ECONOMICS STUDENTS' COURSES AND HOURS: Dean COULTER, Professor COLWELL, and Assistant Professor BRECK.

FARM OPERATIONS: Associate Professor DADISMAN, Professor ANTHONY, Associate Professor GARBER, Associate Professor KNOWLTON and Mr. WILSON.

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[1] Resigned.
[2] In cooperation with United States Department of Agriculture.

ORGANIZATION.

All the agricultural and home economics work of the University is organized under the College of Agriculture. For the purposes of administration the college is divided into four branches, viz:

I. Investigation and research as carried on at Morgantown and throughout the State by the staff of the West Virginia Agricultural Experiment Station.

II. Resident instruction for students pursuing agricultural studies at Morgantown, in the classrooms and laboratories, and on the college farms as usually organized for college work.

III. Resident instruction in home economics.

IV. Extension work for all citizens of the State who desire instruction in agriculture and home economics while living on the farm. This work is given by the Division of Agricultural Extension.

The primary divisions of the work of the College of Agriculture should be clearly distinguished. Some of its staff are engaged in college instruction, experiment station research and extension teaching; few of them give their entire time to instruction; a few give their entire time to experiment station work and several are engaged entirely in extension work.

I. THE WEST VIRGINIA AGRICULTURAL EXPERIMENT STATION.

The Experiment Station is a distinct and separate department of the University, and was established by the Board of Regents in 1887, by authority of an act of Congress known as the Hatch Act, which was passed on the 2nd of March of that year. Further support was given by an act of Congress known as the Adams Act, approved June 30, 1906. From the appropriations made by Congress under these acts the Station derives an annual income of thirty thousand dollars. Section 2 of the Hatch Act fully states the object and purpose of the Experiment Station as follows:

"That it shall be the object and duty of said experiment station to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaption and value of grasses and forage plants; the composition and digestibility of the different kinds of foods for domestic animals; the scientific and economic questions in-

volved in the production of butter and cheese; and such other researches and experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective states and territories."

The State Legislature makes appropriations for the same purposes. During the last biennial period these appropriations amounted to forty-five thousand dollars a year.

Bulletins and annual reports setting forth results of experiments and investigations conducted at the station are published for gratuitous distribution, and will be mailed to any citizen of the state applying for them.

The Experiment Station is engaged solely in research and investigation, the results of which, with those of similar institutions, form the basis of teaching of the College of Agriculture, including the work of the Extension Division.

For further information concerning the work of the Experiment Station write the director.

II. INSTRUCTION IN AGRICULTURE.

AIM AND SCOPE.

The training given by the College of Agriculture is designed to fit its students for farm life, or for work as teachers, field workers, or investigators of agricultural subjects. A large part of the course consists of technical work in the various branches of agriculture. The aim in these courses is to make plain the principles underlying agricultural science, and to give as much practive work as facilities will permit, so that the student will receive a training fitting him for efficient work. The curriculum is planned to give the student a general knowledge of all phases of agriculture, but at the same time to afford him an opportunity to specialize in the subjects in which he is particularly interested. A thorough training in the general sciences underlying scientific agriculture is given.

In addition to the technical work in agriculture and general science, courses in English, sociology, history and economics are required in the College of Arts and Sciences, as the college hopes to train its students to be not only progressive farmers or educators but good citizens and leaders in rural life.

Opportunity is also offered those who wish to prepare for the teaching of agriculture in vocational agricultural schools of secondary grade, in high schools or normal schools or for work in rural school supervision, to take the regular courses in the department of education and agricultural education, thus securing the best possible training for such work.

EQUIPMENT.

The administrative offices and many of the laboratory and class rooms of the College of Agriculture are in a new building, Oglebay Hall, which was completed and occupied February 15, 1919. This building which is 188 feet long and four stories high contains on the basement floor the creamery and dairy laboratories, a four-chambered cold storage plant and ice machine, the station mailing room and laboratories for horticulture, animal husbandry and agronomy. The first floor is devoted to offices and reading rooms, agronomy and plant physiology laboratories, and the food and textile laboratories of the home economics department. The second floor houses the Extension Division and provide six recitation rooms and three sewing laboratories. On the upper floor are the departments of botany, plant pathology, entomology, farm economics, poultry husbandry, veterinary science and agricultural education.

The College of Agriculture now has 700 acres of land lying close to the university buildings. This land has been definitely organized into a series of five farms operated respectively by the animal husbandry, dairy husbandry, poultry husbandry, agronomy and horticultural departments.

There have recently been erected a barn and judging pavilion on the lower campus, a horse barn and a beef cattle barn on the animal husbandry farm. The barn on the agronomy farm has been remodeled and there is now under construction on the poultry farm a three-story building for feed storage, incubation and brooding, together with several other small colony and brooding houses.

The greenhouse establishment has recently been greatly enlarged and made modern in all respects. The dairy buildings have been greatly improved.

With Oglebay Hall, the old experiment station building, the old horticultural hall, the new barns and live stock hall, and the new greenhouses, hot beds and cold frames, equipment is available for a thorough and complete training in the science and art of farming. Laboratories are provided for all phases of dairy husbandry, animal husbandry, poultry, veterinary science, agronomy, horticulture, entomology, plant pathology, farm management and agricultural education, and the greenhouses, farms and barns afford facilities for practical work in which the principles taught in the classroom and laboratory may be tested and put into practice.

REYMANN MEMORIAL FARM.

Through the gift of Anton Reymann and Paul O. Reymann of Wheeling, West Virginia, executors of the estate of Lawrence A. Reymann, deceased, the University came into possession on March 1st, 1917, of the Reymann Memorial Experiment Farm, including 930 acres of land on the Capon River in Hardy County, and a herd of more than 100 head of pure bred Ayreshire cattle. The farm is given for the use of the College of Agriculture for experimental work in all phases of agricultural science.

There is located on the farm a fully equipped cheese factory which is turning out a fancy grade of American full cream cheese The products of this factory won a silver medal at the National Dairy Show at Columbus, Ohio, and received a score exceeded only by cheese from the famous factories of Wisconsin. The exceptional quality of the cheese from this factory has created a demand for its products far in excess of its present output, and an attempt is being made to promote the industry in this and other regions of the state.

Experimental orchards were planted on the farm in the spring of 1918 and definite investigations are under way in the following lines: plant pathology, horticulture, animal husbandry, agronomy, dairy husbandry and veterinary science. The new buildings and improvements provided by the Legislature in 1919 will greatly facilitate this work.

DEMONSTRATION FRUIT GRADING AND PACKING PLANT.

The State Legislature of 1919 provided funds with which to construct a demonstration fruit grading and packing plant to be operated by the College of Agriculture. The plant is located at Inwood, in Berkeley County, in the heart of the territory commonly known as "Apple Pie Ridge," in which not only apples are grown in great variety and in large quantities, but many other fruits are produced. The plant is operated from early July until the late fall.

ENTRANCE REQUIREMENTS.

For admission to the College of Agriculture the student must have credit for fifteen units of secondary school work, i. e., the work of a standard four-year high school.[1]

A. The following groups are required:
   (1) Four units of English.
   (2) Three units in one other subject.
   (3) Two units in a third subject.
   (4) Two units in a fourth subject.
   (5) Four units elective.

B. Work in the following subjects not to exceed the number of units placed after each subject will be accepted.

English	4 units
Foreign languages[2]	
Latin	4 units
Greek	3 units
French	3 units
German	3 units
Spanish	2 units
Italian	2 units
Mathematics	
Algebra	1½ units
Plane geometry	1 unit
Solid geometry	½ unit
Trigonometry	½ unit
History and economics	
History	3 units
Civics	1 unit
Elementary economics and sociology	1 unit
Education	2 units
Drawing	
Free-hand drawing	1 unit
Mechanical drawing	1 unit
Science[3]	
Physics	1 unit
Chemistry	1 unit
Biology	1 unit
Botany	1 unit
Geology	1 unit
Zoology	1 unit
General science	1 unit
Physical geography	½ unit
Physiology	½ unit
Hygiene and sanitation	½ unit
Vocational subjects (not to exceed four units in all.)	
Agriculture	3 units
Household arts	3 units
Manual training	3 units
Bookkeeping or bookkeeping and commercial arithmetic	2 units
Shorthand and typewriting	2 units
Commercial geography	½ unit
Commercial law	½ unit
Music:—violin, organ or piano[4]	2 units

[1] These admission requirements are effective from May 1, 1919, but graduates from high schools in 1919, 1920, or 1921 may, if they prefer, enter under requirements as stated in the University catalogue for 1918-19.

[2] Not less than two units of one foreign language will be accepted for entrance.

[3] A group of two units in science may be made by combining one unit each of physics and chemistry or one unit each of any two of the following; biology, botany, zoology, geology. A group of three units in science may be made by combining one unit each of any three of the following: physics, chemistry, biology, botany, zoology, geology.

[4] For conditions governing credit for music see page 59 of the University catalogue.

FARM OPERATIONS.

The faculty strongly recommends that students who have not had practical farm experience spend at least one year on a first-class general farm before pursuing the course. It is impossible for students who have not had farm experience to secure the fullest benefit of the course.

On entering the college, each student will be examined as to his ability to perform the various operations necessary to carry on farm work and as to his knowledge of farming. A failure to pass this examination will not exclude him from college; another opportunity will be provided at the beginning of the second year to pass off the requirement. If the student then fails he will be required to remain at the college farm during the summer vacation between his second and third year, or to work for the same period on some farm approved by the committee in charge. Weekly reports of the farm operations will be required and he will receive his final examination of the subject at the beginning of the junior year. In case of continued failure, the student's degree will be withheld until he shall satisfy the requirements herein described. This work will be reported on as a preparatory study, and will have no credit value as a part of the required work of the course.

The examinations will test the student's knowledge of everyday farm operations such as those indicated in the following list:

(1) Harnessing a team; (2) Naming parts of harness; (3) Hitching team to farm implements; (4) Plowing; (5) Driving a team; (6) Feeding animals; (7) Distinguishing common breeds of farm animals; (8) Handling farm animals; (9) Milking cows; (10) Distinguishing common breeds of poultry; (11) Knowledge of yields of a few farm crops; (12 Knowledge of common practices in planting the ordinary farm crops; (13) Identifying a few common varieties of apples; (14) Familiarity with common vegetables of the farm garden, and (15) Familiarity with common farm machinery.

DEGREES.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE.

Credits Required.

The degree of Bachelor of Science in Agriculture will be conferred upon any student who satisfies the entrance requirements, and offers one hundred and forty-four semester hours credits for college courses.

The "semester hour" is the standard for computing the amount of work required for graduation. The "hour" represents the amount of work done in one semester (eighteen weeks) and in one recitation hour with two preparation hours a week, or in three hours' practice or laboratory work requiring no outside preparation. No student is permitted to register for less than fifteen hours or more than twenty hours of work in any one semester without special permission.

Classification of Students.

To be classified as a conditioned freshman in the College of Agriculture a student must have a credit for at least thirteen units of entrance requirements; to be classified as a regular freshman he must have fulfilled all entrance requirements. To be classified as a sophomore he must have credit for 26 hours of college work; as a junior, 64 hours; and as a senior, 100 hours.

Summer Courses.

It will be noted that many of the courses described in the following pages are also given in the summer school. In many cases these courses may be pursued to better advantage during the summer. Students who are admitted with advanced standing or students who for any reason may be compelled to do so, may complete the prescribed course for the degree of Bachelor of Science in Agriculture by taking full work for two summer sessions (12 hours each) and three academic years, but only students of exceptional ability or mature age should undertake such a curriculum, which should be arranged with the dean in advance.

Admission With Advanced Standing.

Students from other institutions will be given credit for work already done in accordance with the general rules for advanced standing. (See University Catalogue), but at least one year of resident work will be required for the baccalaureate degree in agriculture.

Required and Elective Subjects.

Of the one hundred and forty-four hours required for the degree, eighty-eight are prescribed for all students, as indicated in the curriculum below. Students who are not required to take military science must substitute elective credits. The remaining fifty-six hours' credit must be elected from such courses as may be approved by the class officer. Of these not more than thirty hours may be elected from the College of Arts and Sciences or from other colleges. The remainder must be elected from the College of Agriculture. (See pages 220 to 223.)

Class Officer.

The dean of the College of Agriculture will act as class officer for all freshmen and sophomore students in the College of Agriculture. The head of the department in which the students elects to take his major will be his class officer for the junior and senior years.

Graduate Work.

Graduates of the College of Agriculture, or from institutions with equivalent work, may be admitted to the University as candidates for the degree of Master of Science, (M.S.Agr.), under the conditions prescribed in the University Catalogue.

Special Students.

Attention is directed to the fact that persons of maturity who have had approximately two years of high school work may enter the College of Agriculture as special students under the provisions as set forth in the University catalogue. These students will be admitted to all elementary classes in agriculture and will receive a thorough training in the practical phases of scientific agriculture. Special provisions are made for disabled soldiers and those taking strictly vocational courses.

Under-Graduate Curriculum.

Most of the courses provided for freshmen and sophomore students are definitely required as set forth in the following outline of courses. These requirements will be modified only in exceptional cases where students who enter with advanced standing or who have other irregularities in their schedule cannot follow the curriculum on account of conflicts. In such cases students will be permitted to offer other courses deemed satisfactory to the Committee on Students' Courses and Hours. The same rule applies in case of courses prescribed for junior and senior students.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE.

Freshman Year—First Semester.

Agricultural botany	(Botany 1)	8:00 or 9:00, M.W.F., 2:00, Lab.	4	
Animal husbandry	(A Husb. 40)	9:00 or 11:00, M.W.F., 2:00, Lab.	4	
Inorganic chemistry	(Chem. 1)	9:00 or 11:00, T.Th.S., 2:00, Lab.	4	
Rhetoric and comp	(English 1)	8:00 or 10:00, M.W.F.	3	
English literature	(English 26)	10:00 or 11:00, T.Th.	2	
Military science (1)		12:00, M.T.Th.F.	1	18

Freshman Year—Second Semester.

Agricultural botany	(Botany 2)	8:00 or 9:00, T.Th., 2:00, Lab	4	
Vegetable gardening	(Hort. 3)	8:00 or 9:00, T.Th., 2:00, Lab.	3	
Inorganic chemistry	(Chem. 2)	9:00 or 11:00, T.Th.,S., 2:00, Lab.	4	
Introduction to agriculture		10:00 M.	1	
Rhetoric and comp.	(English 2)	8:00 or 10:00, M.W.F.	3	
English literature	(English 27)	10:00 or 11:00, T.Th.	2	
Military science (2)		12:00, M.T.Th.F.	1	18

Sophomore Year—First Semester.

Animal biology	(Zoology 1)	8:00 or 9:00, T.Th., 2:00	4	
Introductory physics	(Physics 1)	8:00, M.W.F.	3	
Farm dairying	(Dairy Husb. 21)	9:00, T.Th., or 10:00, M.F., 2:00	3	
Physics laboratory	(Physics 2)	10:00, T. or Th.	1	
Elementary pomology	(Hort. 2)	9:00, T. Th., or 10:00, M.F., 2:00	3	
Soil fertility	(Agronomy 21)	11:00, M.F., 2:00	4	
Military science (3)		12:00, M.T.Th.F.	1	19

Sophomore Year—Second Semester.

Introductory physics	(Physics 3)	8:00, M.W.F.	3	
Physics laboratory	(Physics 4)	10:00, T. or Th.	1	
Farm poultry	(Poultry Husb. 1)	9:00, M.W.F., 2:00	4	
Farm crops	(Agronomy 2)	10:00, M.F., 9:00, S.	3	
General entomology	(Ento. 1)	11:00, M.W.F., 2:00	4	
Military science (4)		12:00, M.T.Th.F.	1	
Elective		----------	3	19

Required Work, Junior and Senior Years—First Semester.

Organic chemistry	(Chem. 16)	9:00, T.Th. 2:00, F.	3
Principles of econ.	(Econ. 15)	11:00, M.W.F.	3

Second Semester.

Rural economics	(Farm Ec. 2)	8:00, M.W.F.	3
Farm management (1)	(Farm Ec. 1)	9:00, M.W.F.	3
General bacteriology	(Botany 10)	11:00, T.Th., 2:00, F.	3

Only class periods of recitation and lecture hours are shown; laboratory periods to be arranged.

MAJOR SUBJECTS.

Upon registering at the beginning of the junior year each student will indicate to the dean the department in which he wishes to do major work, and will be referred to the head of that department as his class officer (See page 14). The curricula given below are suggestive except as regards required subjects, and may be varied by the class officer to meet the needs of individual students, but indicate the subjects which are usually advised for students desiring to take major work in the respective departments.

State Teachers' Certificates.

Students taking courses given by the department of education, to the amount of twenty hours, approved by that department, will be eligible for state teachers' certificates. (For details see page of the University catalogue). Students taking ten hours will be eligible as teachers of vocational agriculture, but twenty hours is recommended.

Agricultural Education.

Students may choose as a major either general agricultural education or vocational agricultural education.

Junior Year—First Semester.	Hrs.	Junior Year—Second Semester.	Hrs.
Sociology 1	3	*Botany 10	3
Education 4	3	Farm economics 1	3
*Chemistry 16	3	Education 5	3
Elective	9 18	Agricultural education 31	2
		Elective	7 18
Senior Year—First Semester.		**Senior Year—Second Semester.**	
*Economics 15	3	Farm economics 2	3
Education 17	3	Agricultural ed. 16 or 36	3
Education 1, 6, 13 or 14	3	Education 2, 7, or 15	3
Elective	9 18	Elective	9 18

Agronomy and Soils.

Students may choose as a major either crops or soils.

Junior Year—First Semester.		Junior Year—Second Semester.	
*Economics 15	3	*Botany 10	3
Agronomy (elective)	3	Farm economics 1	3
*Chemistry 16	3	Agronomy (elective)	5
Botany 22 or Geology 2	3	Elective	7 18
Elective	6 18		
Senior Year—First Semester.		**Senior Year—Second Semester.**	
Agronomy (elective)	3	*Farm economics 2	3
Elective	15 18	Agronomy (elective)	3
		Elective	12 18

* Required courses (see page 219).

Animal Husbandry.

Junior Year—First Semester.	Hrs.
*Economics 15	3
*Chemistry 16	3
Animal husbandry 45	2
Animal husbandry 41	2
Veterinary science 1	3
Elective	5
Total	18

Junior Year—Second Semester.	Hrs.
Zoology 2	4
*Farm economics 1	3
Animal husbandry 42	3
Veterinary science 2	3
Elective	5
Total	18

Senior Year—First Semester.	Hrs.
Zoology 6	3
Genetics 21	3
Animal husbandry 44	2
Animal husbandry 47	2
Botany 10	3
Animal husbandry 50	1
Elective	4
Total	18

Senior Year—Second Semester.	Hrs.
*Farm economics 2	3
Animal husbandry 43	3
Animal husbandry 50	1
Veterinary science 5	2
Elective	9
Total	18

Dairy Husbandry.

Junior Year—First Semester.	Hrs.
*Economics 15	3
*Chemistry 16	3
Animal husbandry 45	2
Dairy husbandry 24	3
Dairy husbandry 25	2
Elective	5
Total	18

Junior Year—Second Semester.	Hrs.
Dairy husbandry 26	4
Farm economics 1	3
Animal husbandry 42	3
*Botany 10	3
Agronomy 10	3
Elective	2
Total	18

Senior Year—First Semester.	Hrs.
Dairy husbandry 27	3
Agronomy 15	3
Genetics 21	3
Veterinary science 1	3
Elective	6
Total	18

Senior Year—Second Semester.	Hrs.
*Farm economics 2	3
Veterinary science 2	3
Dairy husbandry 23	4
Elective	8
Total	18

* Required courses (see page 219).

Entomology.

Junior Year—First Semester.	Hrs.	Junior Year—Second Semester.	Hrs.
*Economics 15	3	*Botany 10	3
Entomology 3	3	*Farm economics 1	3
Botany 12	3	Entomology	2
Horticulture 4	3	Zoology 2	4
*Chemistry 16	3	Botany 13	3
Elective	3 18	Elective	3 18

Senior Year—First Semester.		Senior Year—Second Semester.	
Entomology 4	3	*Farm economics 2	3
Zoology 9	3	Entomology 4 or 5	3
Elective	12 18	Entomology 6	1
		Zoology 10	3
		Elective	8 18

Farm Economics.

Junior Year—First Semester.	Hrs.	Junior Year—Second Semester.	Hrs.
*Economics 15	3	*Botany 10	3
*Chemistry 16	3	Farm economics 8	2
Economics 5	3	*Farm economics 1	3
Elective	9 18	Farm economics 4	3
		Elective	7 18

Senior Year—First Semester.		Second Year—Second Semester.	
Sociology 10	3	Farm economics 2	3
Economics 7	3	Farm economics 3	2
Elective	12 18	Farm economics 7	2
		Farm economics 6	2
		Elective	9 18

Horticulture—Pomology.

Junior Year—First Semester.	Hrs.	Junior Year—Second Semester.	Hrs.
*Economics 15	3	*Farm economics 1	3
*Chemistry 16	3	Entomology 9	2
Horticulture 4	3	Horticulture 7	4
Botany 12	5	Botany 14	5
*Botany 10	3	Elective	5
Elective	1		—
	—		19
	18		

* Required courses (see page 219).

Senior Year—First Semester.	Hrs.	Senior Year—Second Semester.	Hrs.
Horticulture 21	3	*Farm economics 2	3
Horticulture 23	3	Horticulture 11	1
Horticulture 11	1	Horticulture 12	2
Horticulture 12	2	Horticulture 14	3
Genetics 21	3	Horticulture 19	2
Elective	6	Elective	7
	18		18

Horticulture—Vegetable Gardening and Floriculture.

Junior Year—First Semester.		Junior Year—Second Semester.	
*Economics 15	3	*Farm economics 1	3
*Chemistry 16	3	Entomology 9	2
Horticulture 22	3	Horticulture 8	4
Horticulture 15	3	Botany 14	5
*Botany 10	3	Elective	6
Botany 12	5		20
	20		

Senior Year—First Semester.		Senior Year—Second Semester.	
Horticulture 25	2	*Farm economics 2	3
Horticulture 6	2	Horticulture 14	3
Horticulture 23	3	Horticulture 11	1
Genetics 21	3	Horticulture 12	2
Horticulture 11	1	Elective	9
Horticulture 12	2		18
Elective	5		
	18		

Poultry Husbandry.

Junior Year—First Semester.	Hrs.		Junior Year—Second Semester.	Hrs.	
*Economics 15	3		*Botany 10	3	
*Chemistry 16	3		*Farm economics 1	3	
Poultry husbandry 5	3		Poultry husbandry 6	2	
Animal husbandry 42	3		Animal husbandry 45	2	
Veterinary science 1	3		Elective	8	18
Elective	3	18			

Senior Year—First Semester.			Senior Year—Second Semester.		
Poultry husbandry 7	3		*Farm economics 2	3	
Zoology 10	3		Poultry husbandry 8	2	
Genetics 21	3		Farm economics 7	2	
Elective	9	18	Elective	11	18

* Required courses (see page 219).

THESIS.

Every candidate for the degree of Bachelor of Science in Agriculture will be required to prepare a thesis on a subject in some special branch of agriculture or in some other department of science applied to agriculture, unless excused by his class officer. The thesis must be based upon the student's personal work. The subject of the thesis must be presented in writing and approved by the class officer not later than November first of the academic year in which the student is a candidate for a degree. The completed thesis must be presented to the class officer for his approval not later than thirty days prior to the commencement day. The thesis must be typewritten and bound according to official specifications for theses, must be signed by the instructor in charge and the class officer and deposited in the University Library before graduation.

REQUIREMENTS FOR CANDIDATES FOR B.S. AGR. DEGREE WHO ALREADY HOLD THE DEGREE OF A.B. OR B.S.

Students must have received the degree of Bachelor of Arts or Bachelor of Science from West Virginia University or any institution of similar standing, may receive a degree of Bachelor of Science in Agriculture upon the following conditions:

(1) The completion of Physics 1, 2, 3, 4, Chemistry 1, 2, Botany 1, 2, and Zoology 1, or equivalent courses.

(2) The completion of the thirty-seven hours of courses in the College of Agriculture required in the curriculum on page 219.

(3) The completion of at least twenty-two hours of elective courses in the College of Agriculture.

Attention is called to the fact that fifteen hours from the following courses may be credited toward the A.B. degree in the College of Arts and Sciences. (See University Catalogue).

Subject.	Hours.
Agricultural education 31 (History of agricultural education)	2
Agronomy 2 (Farm crops)	4
Soils 21 (Soil fertility)	4
Animal husbandry 40 (Introductory animal husbandry)	4
Dairy husbandry 21 (Farm dairying)	3
Animal husbandry 42 (Feeding farm animals)	3
Animal husbandry 43 (Breeding farm animals)	2
Animal husbandry 45 (animal nutrition)	2
Entomology 21 (Genetics)	3
Farm economics 1 (Farm management)	3
Horticulture 2 (Elementary pomology)	3
Horticulture 3 (Elementary vegetable gardening)	3
Horticulture 13 (Plant breeding)	3
Poultry husbandry 1 (Farm poultry)	3

The following courses are regular electives both in the College of Agriculture and in the College of Arts and Sciences:

Subject.	Hours.
Entomology, courses 1, 2, 3, 4, 5, 6, and 9	18-24
Farm economics 2 (Rural economics)	3
Agricultural education 35 (Methods in agricultural Extension	3
Agricultural education 16 (High school agriculture	3
Agricultural journalism 12	2

Students who desire the advantage of the broader training secured by first taking a degree in the College of Arts and Sciences, and who then expect to take the degree of Bachelor of Science in Agriculture, may so arrange their curriculum as to enable them to take sufficient of the elective courses above mentioned to secure the degree in agriculture in one year or in one year and a summer school session after receiving the first degree.

COURSES OF INSTRUCTION.

In the following announcements the number of hours in parenthesis after the name of the course indicates the number of credit hours. Whenever possible, the semester during which the course is given, the hour, the name of the instructor, and the class room, are stated at the end of the announcement of each course. For convenience it is customary to designate the courses of study by the name of the department and the number of the particular course. Thus the course in farm crops is known as "Agronomy 2;;" the course in rural economics is known as "Farm economics 2;" etc. The abbreviations used are W., Woodburn Hall; S., Science Hall; M., Martin Hall; M. H., Mechanical Hall; L., Library; E., Experiment Station Building; O. H., Oglebay Hall.

Only the technical courses offered primarily for the students in agriculture are described here. For detailed description of the other courses listed as required or elective in the agricultural curriculum, see the announcement of courses in the College of Arts and Sciences or other colleges.

Courses marked by an asterisk (*) may be offered for credit in the College of Arts and Sciences. Courses marked by a double-asterisk are regular electives in the college of Arts and Sciences.

AGRICULTURE

Dean COULTER.

1. **Introduction to Agriculture.** (1 Hr.) Required of all freshmen. Lectures by the dean, the university librarian, and members of the faculty, designed to indicate to new students the field of agricultural education, helpful methods of study, the use of the library. etc.

Second semester; hour to be arranged.

AGRICULTURAL JOURNALISM.

Mr. STOCKDALE.

12. **Agricultural Journalism. (2 Hrs.) Elective. Instruction and practice in writing articles for farm periodicals, in editing, proofreading, illustrating, and in general preparation for publication; bulletin writing; farm advertising; other forms of special farm writing. Prerequisite: English 1 and 2 or consent of instructor.

Second semester; W. F., 4:30.

13. **Agricultural Journalism.** (1 Hr. each semester.) Elective. A practice course for juniors and seniors in the writing, illustrating, criticism and placing of articles of an agricultural nature in the farm papers of the United States. Prerequisite: Agricultural Journalism 12 or consent of instructor.

First and second semester; hours to be arranged.

AGRICULTURAL EDUCATION.

Professor WINKLER, Assistant Professor ALLEN and Mr. ROUZER.

*31. **History of Agricultural Education.** (2 Hrs.) Elective. The purpose of this course is to give a better understanding and appreciation of present day tendencies in agricultural education. The origin and development of the movement for agricultural education in Europe and the United States and the effect of this movement upon education as a whole will be considered.

Second semester; T. Th., 10:00.

16. **High School Agriculture. (3 Hrs.) Required instead of Education 10 of seniors who desire a State Teacher's Certificate. A course designed for persons who expect to teach agriculture in the high school. The organization of courses in secondary agriculture with reference to classroom study and laboratory and field studies; preparation and discussion of lesson plans; methods of teaching; observation and practice teaching.

Second semester; T. Th., 9:00 T., 2:00; or hours to be arranged.

35. **Methods of Agricultural Extension. (2 Hrs.) A consideration of the principles of extension teaching and the best types of organization for extension work.

Second semester; T. Th., 11:00; Staff, assisted by specialists from the Extension Division.

36. **Vocational Agricultural Education.** (3 Hrs.) Elective for seniors. A course for students qualifying for special teachers, directors and supervisors of vocational agricultural education in the secondary school, as provided for under the Smith-Hughes Act, aiming to indicate the methods and organization of schools.

Second semester; T. Th., 9:00; and a third hour to be arranged.

34. **Special Problems.** (2 to 5 Hrs.) Elective. Open to advanced undergraduate and graduate students. Studies in present day problems in agricultural education.

First and second semesters. Hours to be arranged. Professor WINKLER.

37. **The Teaching of Vocational Agriculture.** (3 Hrs.) Open only to teachers engaged in teaching vocational agriculture. An extension course of about sixteen lessons.

The instructor in charge will visit each teacher in turn, remaining a week at each place to discuss certain special topics to review work done, and plan future work.

Either semester; Assistant Professor H. B. ALLEN.

AGRONOMY.

Associate Professor GARBER and Assistant Professor ODLAND

2. Farm Crops. (4 Hrs.) Required of sophomores. Lectures and recitations on cereals, forage crops and miscellaneous crops; history, production, seeding, cultivation and marketing; time and methods of planting and preparation of soil.

Second semester; M. W. F., 9:00. M. T. or F., 2:00.

3. Cereals. (3 Hrs.) Elective. Advanced study of the culture, selecting, testing, storing and marketing of all important grains. Review of experiment station literature. Laboratory study of market grades according to Government standards and variety studies. Prerequisite: Agronomy 2 and Soils 21.

First semester; T. Th., 9:00; W. 2:00.

10. Forage Crops. (3 Hrs.) Elective. This course is a continuation of the work given on forage crops in Course 2. A thorough study is made of all the important grasses and clovers that can be grown for meadow and pasture purposes. Lectures and recitations. Prerequisites: Agronomy 2 and Soils 21.

Second semester; T. Th., 8:00; W. 2:00.

15. Field Crop Improvement. (3 Hrs.) A study of the principles of plant breeding, methods of improving field crops by selection and hybridization and a review of the experimental work of other stations. Prerequisite: Consent of instructor.

First semester; T. Th., 11:00; W. 2:00.

8. Field Experimentation. (3 Hrs.) Experiment Station methods of investigation, laying out plots, maintenance of fertility and uniformity; planting and harvesting; keeping records and interpretation of results. Prerequisite: Agronomy 15 and Soils 21.

Second semester; T. Th., 11:00; W. 2:00; Associate Professor GARBER.

12. Research in Farm Crops. (Credit in proportion to work done.) For advanced undergraduate and graduate students. Prerequisite: permission of class officer.

First or second semester and summer; hours to be arranged.

9. Thesis. (1 or 2 Hrs.) Students who intend to do thesis work in agronomy must select their problems before the close of their junior year so that field work can be arranged.

First and second semester and summer; hours to be arranged.

1. Plant Industry Seminar. (1 Hr. each semester.) Required of seniors and graduate students in agronomy; a joint seminar of the departments of agronomy and horticulture.

First and second semester; Monday 4:30; Agronomy staff.

ANIMAL HUSBANDRY.

Professor LIVESAY, Assistant Professor ---------- Mr. WILSON and Mr. SHAW.

40. Introductory Animal Husbandry. (4 Hrs.) Required of freshmen. For students desiring foundation training in animal husbandry, whether in preparation for advanced courses or for a general knowledge of live stock. Characteristics of the leading breeds and their care and feeding. Assigned readings, lectures and quizzes.

First semester; M. W. F., 9:00 or 11:00; W. or F., 2:00; Professor LIVESAY and Mr. WILSON.

41. Livestock Judging. (2 Hrs.) Elective. Judging breeding and fat classes of livestock with reference to market and show yard requirements. Prerequisite: Animal husbandry 40.

First semester; M. 2:00, S. 8:00; Animal Husbandry Staff.

***42. Feeding Farm Animals.** (3 Hrs.) Elective. Classification digestibility and functions of food nutrients; market grades and food values of feeding stuffs; feeding standards and calculations of balanced rations; adaptability of different feeds; identifying feeds and mixing rations and feeding farm animals. Assigned readings, lectures and quizzes. Prerequisite: Animal husbandry 40 and 45.

First semester; M. W. F., 11:00; Professor LIVESAY.

***43. Breeding Farm Animals.** (3 Hrs.) Elective. Evolution of domestic animals; history of their systematic breeding and improvement; unit characters; the range of variability; the effects of grading and crossing; and systems of breeding. Lectures, assigned readings, and quizzes. Prerequisite: Animal husbandry 40, and Genetics 21.

First semester; M. W. F., 11:00; Professor LIVESAY.

44. Advanced Stock Judging. (2 Hrs.) Elective. Judging breeding and fat classes of livestock with reference to market and show-yard requirements. Students taking this course will be required to participate in a tour of inspection of representative herds, flocks and studs. Prerequisite: Animal husbandry 41.

First semester; M., 2:00; S., 8:00; Animal husbandry staff.

45. Animal Nutrition. (2 Hrs.) Elective. Composition and fuel value of feeding stuffs; digestion, absorption and metabolism of food nutrients; elimination of metabolic products; coefficient of digestibility and nutritive value of feeding stuffs. Prerequisite: Animal husbandry 40.

First semester; Th., 10:00; T., 2:00; Professor LIVESAY.

47. **Herd and Flock Book Study.** (2 Hrs.) Elective. A critical study of the most noted flocks and herds at home and abroad with a view to becoming acquainted with the pedigree of the leading blood lines and families of the different breeds of livestock. Prerequisite: Animal husbandry 40.

First semester; hours to be arranged; Animal husbandry staff.

49. **Research.** (2 to 5 Hrs.) Elective. Intended primarily for advanced undergraduates and for graduate students who desire to do research along one or more of the following lines: (a) Nutrition. (b)Breeding. (c) Systems of livestock farming. (d) Advanced history of breeds of livestock. (e) Meats. Prerequisite: Permission from head of department.

First and second semesters; hours to be arranged; Animal husbandry staff.

50. **Animal Industry Seminar.** (1 Hr. each semester.) Required of seniors, and graduate students whose major is animal husbandry. Papers will be prepared and read by the members.

First and second semesters; Monday 4:30; Animal husbandry staff.

51. **Thesis.** (Credit in proportion to work done.)

First and second semesters; hours to be arranged; Animal husbandry staff.

52. **Summer Practice.** (1 Hr.) One hour's credit will be given for satisfactory reports, made in prescribed form, upon summer work done upon an approved livestock farm. (Request to do summer work must be made upon forms provided, not later than July 1st, and a report submitted by October 1st.)

Professor LIVESAY.

60. **Beef Production.** (3 Hrs.) Elective. A critical study of beef breeds; beef type from the standpoint of the butcher, the feeder, and the breeder; market classes and grades; equipment, breeding and management; combined beef and milk production; wintering and grazing; finishing for market. Lectures, assigned readings, quizzes. Prerequisite: Animal husbandry 40.

Second semester; T. Th., 9:00; F., 2:00; Professor LIVESAY.

61. **Horse and Mule Production.** (3 Hrs.) Elective. A review of breeds, with a critical study of their type, characteristics and adaptability; equipment and methods of breeding and management; care of mares, stallions, jacks, and foals under farm conditions. Lectures, assigned readings, quizzes. Prerequisite: Animal husbandry 40.

First semester; T. Th., 9:00; F., 2:00.

62. Mutton and Wool Production. (3 Hrs.) Elective. Breeds used for mutton and for wool production; type, characteristics, and adaptability; market classes and grades of sheep and wool; sheep breeding as applied to pure bred and grade flocks; feeding, housing and shepherding; factors affecting the quantity, quality, strength and condition of wool and health of the animals. Lectures, assigned readings, quizzes. Prerequisite: Animal husbandry 40.

Second semester; T. Th., 10:00; Th., 2:00; Mr. WILSON and Mr. SHAW.

63. Pork Production. (3 Hrs.) Elective. A critical study of breeds with respect to type, characteristics, and adaptability; market classes; swine raising from the standpoint of economic production; breeding, housing, care and feeding of swine. Lectures, assigned readings, quizzes. Prerequisite: Animal husbandry 40.

Second semester; T. Th., 11:00; T., 2:00.

64. Meats. (2 Hrs.) Elective. Farm butchering, curing and care of meats; yield, quality, and value of meat and by-products as related to breeding, feeding, and health of animals; classes, grades and cuts of meat recognized in wholesale and retail markets. Prerequisite: Animal husbandry 41.

First semester; hours to be arranged; Animal husbandry staff.

DAIRY HUSBANDRY.

Professor ANTHONY and Assistant Professor HENDERSON.

21. Farm Dairying. (3 Hrs.) Required of sophomores. Assigned readings, lectures and quizzes. An elementary course covering the principles of farm dairying.

First semester; T. Th. 9:00, or M. F. 10:00; T. or Th. 10:00-12:00 or M. or F. 2:00.

23. Milk Production. (4 Hrs.) Elective. This course deals with the economical production of milk and with the most approved methods of handling the dairy herd. Lectures, assigned readings, quizzes and laboratory. Prerequisite: Dairy husbandry 21.

Second semester; M. W. F., 9:00, M. 2:00.

24. Pure-bred Dairy Cattle. (3 Hrs.) Elective. This course deals with the study of the different dairy herd books and of each of the dairy breeds with special attention to judging and study of breed types, and to different families and pedigrees. Prerequisite: Dairy husbandry 21.

First semester; hours to be arranged.

25. Dairy By-Products. (2 Hrs.) Elective. A thorough study of ice cream manufacture; also of fermented milks, milk sugar, condensed milk, etc. Prerequisite: Dairy husbandry 21. Breakage fee $2.00, refund $2.00, less breakage.

First semester, one class period and one laboratory period. Hours to be arranged.

26. Butter and Cheese Manufacture. (4 Hrs.) Elective. A thorough study of the manufacture of butter and various classes of cheese. Lectures, assigned reading and laboratory. Prerequisite: Dairy husbandry 21. Breakage fee, $2.00, refund, $2.00, less breakage.

Second semester; T. Th., 8:00; laboratory hours to be arranged.

27. Market Milk. (3 Hrs.) Elective. Lectures, assigned readings, and laboratory. A comprehensive study of the handling. treatment and distribution of market milk, bacteriological studies, etc. Prerequisite: Botany 10.

First semester; W. F. 9:00, F. 2:00.

34. Research. (1 or 2 Hrs. each semester.) Elective. For seniors and graduate students. Special problems in any line of dairy husbandry may be taken in this course according to needs of the student.

First and second semesters; hours to be arranged.

35. Summer Practice. (1 Hr.) Credit amounting to one hour will be given for satisfactory reports made in prescribed form upon summer work done on an improved dairy farm, or in creamery, cheese factory or market milk plant. (Request to do summer work must be made upon forms provided, not later than July 1, and a report submitted by October 1.)

36. Dairy Chemistry. (2 Hrs.) Elective for seniors. A thorough study of latest and best methods for analytical analysis of dairy products. A laboratory course and assigned readings under supervision of the chief chemist of the Agricultural Experiment Station. Prerequisite: Dairy husbandry 25 and 26.

First semester; hours to be arranged.

37. Advanced Dairy Judging. (1 Hr.) Elective for juniors and seniors. Judging dairy cattle and dairy products such as butter cheese, milk, etc. Prerequisite: Dairy husbandry 24 and 21.

Second semester; hours to be arranged.

ENTOMOLOGY.

Professor PEAIRS and Mr. ————————

1. **General Entomology. (4 Hrs.) Required of sophomores. Laboratory and field work in collecting and mounting the more common local insects; classification of the insects collected; dissections and drawings of the external anatomy of various types. Text: Comstock's Manual for the Study of Insects.

Second semester; M. W. F., 11:00, Th., 2:00.

Also given in Summer School.

2. **Economic Entomology. (2 Hrs.) Elective in the College of Agriculture and the College of Arts and Sciences. A general consideration of insect forms which directly affect the welfare of man and a discussion of methods of insect control. Prerequisite: Entomology 1.

Second semester; T. Th., 10:00.

3. **Advanced General Entomology. (3 Hrs.) Elective. Origin and development of insects; special structures, coloration, adaptations, structural and otherwise, internal anatomy. Lectures, assigned reference work and laboratory. Prerequisite: Zoology 1.

Second semester; hours to be arranged.

4. **Systematic Entomology. (Credit in proportion to work done not to exceed 3 hours a semester.) A continuation of the work in classification begun in Course 1. Detailed studies of certain groups.

Either semester or Summer School; hours to be arranged.

5. **Research Entomology. (Credit in proportion to work done not to exceed 3 hours a semester.) For students wishing to make entomology their major. For seniors and graduates. Prerequisite: Entomology 3.

Either semester or Summer School; hours to be arranged.

6. **Insects and Disease. (1 Hr.) Lectures on the more common insects known to be, or suspected of being, responsible for the transmission of diseases of man and the higher animals.

Second semester; hours to be arranged.

8. **Thesis.** (1 or 2 Hrs.)

First and second semesters; hours to be arranged.

9. **Horticultural Entomology. (2 Hrs.) Lectures and field Observations on insects affecting fruit and vegetable crops with special consideration of control measures applicable to such forms. Prerequisite: Entomology 1.

Second semester; T. Th., 11:00.

GENETICS.

21. Genetics. (3 Hrs.) A historical consideration of the theories of evolution leading up to the present science in genetics. A study of heredity and variation and the various concepts of the mechanism of heredity. Text, Babcock and Clausen, Genetics in Relation to Agriculture, Part I, and Morgan et. al., The Mechanism of Mendelian Heredity. Lectures and assigned reference work. Laboratory work to consist of the study of Mendelian ratios as illustrated by the behavior of the various races of Drosophila.

First semester; hours to be arranged, Professor PEAIRS.

22. Genetics. (1 Hr.) A laboratory course designed to afford students an opportunity to continue breeding problems begun in the first semester.

Second semester; hours to be arranged, Professor PEAIRS.

APICULTURE.

30. Bee-Keeping. (2 Hrs.) Elective. A study of modern methods of bee-keeping, including a consideration of the make-up of the colony; the construction of modern hives, the manipulation of bees in swarming, transferring, dividing, honey plants, feeding, wintering and other problems of importance. One lecture and one demonstration period weekly.

Second semester; hours to be arranged, Professor PEAIRS.

31. Bee-Keeping. (1 Hr.) Practical work in bee-keeping operations which naturally occur in the fall of the year and cannot be adequately illustrated in the spring. Prerequisite Entomology 30.

First semester; hours to be arranged; Professor PEAIRS.

FARM ECONOMICS.

Associate Professor DADISMAN and Mr. SHAFFER.

*1. **Farm Management.** (3 Hrs.) Required of juniors. Choosing equipping and operating a farm; types of farming; rental system; farm labor; cost of production; successful marketing; farm records and accounts, etc. Field trips during the latter part of the semester. Prerequisite: Agronomy 2, Soils 21.

Second semester, M. W. F., 9:00.

2. **Rural Economics. (3 Hrs.) Required of juniors and seniors. Open also to graduate students. The study of economics as related to all phases of rural life. Prerequisite: Economics 15 or equivalent.

Second semester; M. W. F., 8:00.

3. **Advanced Farm Management.** (2 or 3 Hrs.) Open to seniors and graduate students. A continuation of farm management 1.

Second semester; hours to be arranged.

4. **History of Agriculture.** (3 Hrs.) Elective. The history of agriculture beginning with ancient references through all the stages of its development; early agricultural experiment stations and their work; the West Virginia Station; the United States Department of Agriculture.

Second semester; M. W. F., 10:00.

6. **Thesis** (1 or 2 Hrs.)

Both semesters; hours to be arranged.

7. **Marketing Agricultural Products.** (2 Hrs.) Elective. A study of produce exchanges, methods of transportation, and municipal markets and cooperative marketing. One day or more will be spent in Pittsburg studying livestock, fruit and vegetable markets.

Second semester; T. Th., 8:00.

8. **Farm Records and Accounts.** (2 Hrs.) Elective. A study of farm inventories, records and cost accounts from actual farm records.

Second semester; hours to be arranged.

Farm Engineering.

Mr. ————

4. **Farm Machinery.** (3 Hrs.) A detailed study of the construction, assembling and testing, and care of farm machinery. Prerequisite: Agronomy 5.

Second semester; W., 11:00; Th., 2:00.

5. **Farm Engineering.** (4 Hrs.) Elective.

Second semester; M. W. F., 11:00; F., 2:00.

6. **Farm Structures.** (2 Hrs.) Lectures covering properties of materials used, planning, construction, and relative cost of farm buildings and other farm structures. Prerequisite: consent of instructor.

Second semester; W., 11:00; Th., 2:00.

HORTICULTURE.

Professor GOURLEY, Associate Professor KNOWLTON, Associate Professor CRANE, Assistant Professor WESTOVER, Assistant Professor PATCH, and Mr. ANGELO.

Pomology.

2. Elementary Pomology. (3 Hrs.) Required of sophomores. This course is designed to give agricultural students the elements of modern orchard methods and is treated from the standpoint of both home and commercial orchards. Consideration is given to the selection of orchard sites, laying out and planting the orchard, the growing and purchase of nursery stock, pruning, thinning, tillage and spraying.

First semester; T. Th., 9:00 or M.F., 10:00 T. W., or F., 2:00; Mr. ANGELO.

4. Systematic Pomology. (3 Hrs.) Required of juniors in pomology and elective for others. The history, botany and classification of fruits are studied in detail. Varieties of deciduous tree fruits are studied with special reference to their adaptation to West Virginia conditions. Prerequisite: Horticulture 2.

First semester; M. W.. 9:00; F., 2:00; Professor GOURLEY.

5. Small Fruits. (3 Hrs.) Elective junior year. This course is designed to study care and management of small fruit plantations; varieties and their adaptation to West Virginia soils and climate; packing and marketing; experimental plots and varieties under test. Prerequisites: Horticulture 2.

Second semester; T. Th., 9:00; Th., 2:00; Mr. ANGELO.

7. Commercial Fruit Production. (4 Hrs.) Required of juniors in horticulture. The purpose of this course is to familiarize the student with the methods in vogue in the commercial production of fruit in this country, particular attention being given to the production of the apple and peach crop of West Virginia. Problems of production as well as management are considered. Special attention is given to orchard economics. Designed to prepare men to be orchard managers. Prerequisite: Horticulture 2.

Second semester; M. W. F., 10:00; F., 2:00; Associate Professor CRANE.

9. Horticultural Field Trip. (1 Hr.) A trip occupying one week's time will be made through the fruit regions of Eastern West Virginia, Maryland and Pennsylvania. The cost will not exceed $50.00 Prerequisite: Horticulture 2.

First semester; Associate Professor CRANE.

16. Fruit Judging. (1 Hr.) A course of fruit judging designed to train men for fruit judging teams and practical judging.

First semester; hours to be arranged; Horticultural Staff.

18. Advanced Fruit Judging. (1 Hr.) A continuation of horticulture 16.

First semester; hours to be arranged; Horticultural Staff.

21. Packing and Marketing. (3 Hrs.) Required of seniors in horticulture. The preparation for market and the marketing of the frut crop is considered in this course. It deals with picking, packing, packing houses and equipment, transportation, market information, storage, means and methods of distribution, and economics of marketing. Prerequisite: Horticulture 2 and 7.

First semester; M. W., 9:00; Th., 2:00; Associate Professor CRANE.

26. Sub-Tropical Horticulture. (2 Hrs.) Elective for juniors and seniors. This course is designed to give the student a survey of the important sub-tropical fruits, including their culture, varieties, harvesting and marketing. A portion of the time will be devoted to a study of nut culture.

First semester; T. Th., 10:00; Associate Professor KNOWLTON.

28. Sprays and Spraying Equipment. (2 Hrs.) Elective for seniors. A study of the principles of spraying for the control of insects and diseases affecting horticultural plants; principles of construction, operation, and repair of spraying equipment, will be considered. One lecture period and one laboratory. Prerequisite: consultation.

Second semester; M., 11:00; Th., 2:00; Associate Professor CRANE.

Vegetable Gardening and Floriculture

3. Elementary Vegetable Gardening. (3 Hrs.) Required of freshmen. This course aims to familiarize students with modern vegetable production. It includes a study of garden soils, germination and planting of seeds, the selection of proper varieties for the region, the construction of hot beds and cold frames, fertility problems, irrigation, and packing and marketing of vegetables.

Second semester; T. Th., 8:00 or 9:00; laboratory 2:00, days to be arranged, Assistant Professor WESTOVER.

8. Commercial Vgeteable Gardening. (4 Hrs.) Required of juniors in vegetable gardening. This course aims to acquaint the student with commercial market garden methods. The history and geography of the industry is studied together with opportunities afforded about the larger cities of the state. Production methors, marketing and storage are considered.

Second semester; T. Th. S., 10:00; F., 10:00-12:00; Assistant Professor WESTOVER.

22. Systematic Olericulture. (3 Hrs.) Required of juniors in vegetable gardening. A study of the history, botany, nomenclature and classification of vegetables.

First semester; M.F., 10:00; F., 2:00; Assistant Professor WESTOVER.

6. Greenhouse Construction. (2 Hrs.) Elective for juniors. Lectures and discussions upon modern greenhouse construction. Heating, ventilation, and adaptation of various types of houses to special crops and conditions. Laboratory work in drafting, designing and erecting greenhouses. One lecture period and one laboratory.

First semester; T., 10:00; Th., 2:00; Assistant Professor PATCH.

14. Rural Landscape Gardening. (3 Hrs.) Required for seniors in all horticultural courses. Designed to give students a knowledge of the fundamental principles of landscape design. Special emphasis is laid upon the decoration of home grounds, schools and other public buildings, the planting of cemeteries, and the laying out of parks. Students are required to make planting plans and execute a limited number in the local vincinity. An ornamental nursery is being developed on the college farm and students will receive practice in the production of the more common ornamentals.

Second semester; T. Th., 8:00; M., 2:00; Assistant Professor PATCH.

15. Greenhouse Management. (3 Hrs.) Elective for juniors. A study of the principal flower and vegetable crops grown under glass, with special reference to those grown in the fall. Laboratory exercises will include practical work in the college greenhouses.

First semester; M. W., 9:00; S., 10:00-12:00; Assistant Professor PATCH.

24. Advanced Greenhouse Management. (3 Hrs.) Elective for juniors. A continuation of Horticulture 15, with special consideration of spring crops. Prerequisite: Horticulture 15.

Second semester; M. W., 8:00; F., 2:00; Assistant Professor PATCH.

25. **Ornamental Plant Materials.** (2 Hrs.) Elective for seniors. A study of the trees, shrubs, vines, and hardy perennials used for ornamental planting. This course is offered in preparation for Horticulture 14.

First semester; Th., 10:00; M., 2:00; Assistant Professor PATCH.

General Courses.

10. **Thesis.** (1 or 2 Hrs.) For seniors and graduate students. Students should arrange their problems before the close of their junior year so that materials may be on hand and no delay will be necessary in the following year.

First and second semester; hours to be arranged; Professor GOURLEY and Staff.

11. **Plant Industry Seminar.** (1 Hr. each semester.) Required of seniors and graduate students in horticulture. Papers by members of the class upon subjects pertaining to their research or thesis work or upon special problems. Discussion of special topics by members of the faculty.

First and second semester; Mondays 4:30; Horticultural Staff.

12. **Horticultural Research.** (2 Hrs.) Elective for seniors and graduate students specializing in horticulture. A critical consideration of the results of horticultural investigation in this and foreign countries and their applicaton to West Virginia conditions. This course is designed particularly for students who expect to teach in school or college or engage in experiment station work. Lectures, reference work and special problems.

First and second semester; hours to be arranged; Professor GOURLEY and Staff.

17. **Summer Practice.** (1 Hr.) Open to juniors and seniors. One hour credit will be given for satisfactory reports made by students who spend the summer upon an approved fruit or truck farm or in a greenhouse establishment. Application for credit must be made by July 1st and a report submitted by October 1st.

Professor GOURLEY and Staff.

19. **Plant Breeding, Theory and Practice.** (2 Hrs.) Required of seniors specializing in horticulture. Open also to graduate students. This course is designed to acquaint the student with the application of the principles of heredity to horticultural plants and also to give field work in the technique and practice of plant breeding. Prerequisite: Genetics 21.

Second semester; T. F., 11:00; Professor GOURLEY.

20. Literature of Horticulture. (2 Hrs.) Elective for seniors. The purpose of this course is to familiarize the student with prominent early and modern horticulturists and their writings and to trace the development of horticultural research and research industries. Lectures and assigned readings and reports. Prerequisite: Consultation.

Second semester; M. Th., 10:00; Professor GOURLEY.

23. Plant Growth. (3 Hrs.) Required of all seniors in horticulture. Open to graduate students. This course is primarily a treatise on plant growth in relation to various environmental factors. The principal factors affecting growth of our economic plants will be given consideration. Prerequisite: Consultation: Special laboratory work.

First semester; M. W. F., 11:00; Associate Professor KNOWLTON.

PLANT PATHOLOGY.

Professor GIDDINGS.

1. Experimental Plant Pathology. (2 to 5 Hrs.) Elective. Intended primarily for undergraduate and graduate students in agronomy and horticulture.

First and second semesters; hours to be arranged.

2. Research. (1 to 3 Hrs. each semester.) Elective. Designed primarily for seniors and graduate students whose major work is in agronomy or horticulture. Detailed laboratory and field studies of actual present day problems with special consideration of the particular needs of the student. Prerequisite: Plant Pathology 1 or its equivalent.

First and second semesters; hours to be arranged.

3. Thesis. (1 to 2 Hrs.) Elective. Open to seniors or graduate students. It is highly desirable that students who plan to take this work should make some preliminary arrangements before the close of their junior year.

First and second semesters; hours to be arranged.

POULTRY HUSBANDRY.

Associate Professor ANDREWS.

*1. **Farm Poultry.** (3 Hrs.) Required of sophomores. Common breeds and varieties of poultry; the poultry house and its equipment; hatching and rearing chicks, care and management of flock; marketing poultry and poultry products; the most common poultry diseases, their prevention and treatment. Laboratory fee, $1.00.

Second semester; M. F., 10:00; S., 9:00.

5. **Housing and Feeding.** (3 Hrs.) Elective for juniors. Lectures on the various types of poultry houses, their location, construction and equipment; feeds and feeding; practice in constructing and remodeling houses and equipment, and mixing rations.

First semester; hours to be arranged.

6. **Incubation, Brooding and Rearing.** (2 Hrs.) Elective for juniors. Lectures on the fundamental principles involved in natural incubation and brooding; care and management of chicks; construction and operation of incubators and brooders; egg testing.

Second semester; hours to be arranged.

7. **Breeds and Breeding.** (3 Hrs.) Elective for juniors. Lectures on the different classes, breeds and varieties, their origin, history, and classification; breeding for standard and utility; practice in judging poultry, selection and mating of flock.

First semester; hours to be arranged.

8. **Marketing.** (2 Hrs.) Elective for juniors. Lectures on marketing poultry and poultry products; practice in caponizing, killing, dressing and packing; grading, candling and shipping eggs. One hour lecture and one hour practice.

Second semester; hours to be arranged.

9. **Poultry Diseases.** (1 Hr.) Elective. Lectures and laboratory practice on prevention and treatment of poultry diseases and parasites; anatomy of the fowl, diagnosis and treatment of specimens.

First and second semester; hours to be arranged.

10. **Research.** (1 to 3 Hrs.) Elective for seniors. A study of methods of investigation together with the working out of some original problems.

Either semester; hours to be arranged.

11. **Poultry Practice.** (1 to 4 Hrs.) Elective. Practice in incubation, brooding, flock management, etc.

Either semester; hours to be arranged.

12. **Advanced Poultry Judging.** (3 Hrs.) Elective. Lectures and practice in judging standard bred poultry, both for show and commercial purposes.

Either semester; hours to be arranged.

SOILS.

Associate Professor DEATRICK, Assistant Professor ———————— and Mr. MORGAN.

21. Soil Fertility—The Properties of Soils. (4 Hrs.) Required of sophomores. Lectures on the physical, chemical and biological properties of soils with reference to their crop-producing power. Prerequisite: Chemistry 2. Breakage fee, $2.50; refund $2.50, less breakage.

First semester; M. F., 11:00; M. F., 2:00 or T. Th., 2:00.

22. Soil Fertility—Soil Management. (3 Hrs.) Elective. Lectures on soil management including fertilizer practice. liming, farm manures, crop rotations, green manures and cover crops, etc. Laboratory work will consist of chemical, physical and biological determinations on soil from the student's home farm. Prerequisite: Soils 21. Breakage fee, $2.50; refund of $2.50, less breakage.

Second semester; T. Th., 9:00; F., 2:00.

23. Soil Chemistry. (3 Hrs.) Elective. Lectures and laboratory work on soil chemistry. The laboratory work will include a complete inorganic analysis of a soil for all the elements contained in it. Prerequisite: Soils 21.

Second semester; hours to be arranged.

24. Soil Bacteriology. (3 Hrs.) Elective. Lecture and laboratory work on bacteria in soils and the measurement of their activity. Prerequisite: Soils 21, 22 and 23.

Second semester; hours to be arranged.

25. Soil Physics. (3 Hrs.) Elective. Lectures and laboratory work on the relation between the physical properties of soils and their productivity. A mechanical analysis of a soil will be made by means of the centrifuge. Prerequisite: Soils 21.

First semester; hours to be arranged.

26. Advanced Soil Fertility. (2 Hrs.) Elective. Lectures. A review of investigational work which has been and is now being conducted on some of the more important soil problems. Prerequisite: Soils 21 and 22.

Second semester; hours to be arranged.

27. Soil Literature. (1 Hr.) Open to seniors and graduate students. Designed to familiarize the student with sources of information and current soil literature.

First and second semesters; hours to be arranged.

28. Plant Analysis. (3 Hrs.) Elective. Lectures and laboratory work on the methods of analysis of plants and plant products, of interest to anyone whose major is animal husbandry, agronomy or horticulture. Prerequisite: Soils 21.

First semester; hours to be arranged.

29. Research in Soils. Open to seniors and graduates. (Credit given in proportion to work done.)

Summer or either semester.

VETERINARY SCIENCE.

Associate Professor LUEDER.

1. Anatomy and Physiology. (3 Hrs.) Elective. A systematic description of the bones, muscles, viscera, and the vascular, lympathic and respiratory systems. The structure of the ox, sheep, and pig, as contrasted and compared with that of the horse. The functions of the various organs and tissues of the body, the chemical constitution and physical laws which affect growth, reproduction and development.

First semester; T. Th., 10:00; Th., 2:00.

2. Diseases of Farm Animals and Materia Medica. (3 Hrs.) Elective A study of the important diseases of all domestic animals, method of treatment and drugs for their care. Prerequisite: Veterinary science 1.

Second semester; T. Th., 10:00; Th., 2:00.

5. Parasites of Farm Animals. (2 Hrs.) Elective. Lectures and text book study. Classification, life history and identification of the parasites of domestic animals; prevention of infection, symptoms and treatment of the animals; methods of control of the parasites. Prerequisite: Entomology or Zoology 1, and Veterinary science 1.

Second semester; F., 10:00, and laboratory hours to be arranged.

III. INSTRUCTION IN HOME ECONOMICS.

ORGANIZATION.

For purposes of administration the department is organized under the College of Agriculture. The work involves three lines:

1. In the College of Agriculture a prescribed curriculum is outlined whereby students may select as their major either general home economics or vocational home economics in preparation for the degree of Bachelor of Science in Home Economics.

2. In the College of Arts and Sciences students working for the degree of Bachelor of Arts may take home economics as a major and must meet the requirements for the degree as prescribd by that college (page). The head of the department of home economics acts as class officer for such students.

3. Extension work in home economics is given under the direction of the Division of Agriculture Extension (page).

AIM AND SCOPE.

The course leading to the degree of Bachelor of Science in Home Economics is planned for women students and especially for those who wish to teach home economics in vocational schools and other institutions or to learn the business of home keeping. The aim of the course is to give women such training as will best prepare them to assume their responsibilities as members of a household and a community. This training includes: first, a knowledge of those sciences which are fundamental to an understanding of the principles of home economics; second, technical courses in food, shelter, and clothing which will enable the student to establish standards of living; third, a general knowledge of the law of production and consumption obtained from courses in oral and written English and in English literature. To provide for this training a curriculum is prescribed. Sufficient electives are allowed to permit the student to qualify for vocational home economics, or to take special courses in agriculture, or to select other courses in which she is interested.

EQUIPMENT.

The department occupies two floors of the wing of Oglebay Hall. On the first floor are two large well equipped food laboratories, a suite of rooms consisting of dining room and kitchen and reception room, a textile laboratory, a reading room, and the offices of the department. On the second floor there are three textile laboratories equipped with sewing machines and electric motor attachments. There is also on this floor a large recitation room for demonstrations.

ENTRANCE REQUIREMENTS.

For admission to the course leading to the degree of Bachelor of Science in Home Economics, the requirements are the same as for admission to the course in agriculture. (See page 215.)

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN HOME ECONOMICS.

Credits Required.

The degree of Bachelor of Science in Home Economics will be conferred upon any student who satisfies the entrance requirements and offers one hundred and twenty-eight hours credit for college courses including a satisfactory thesis.

The "semester hour" is the standard in computing the amount of work required for graduation. The "hour" represents the amount of work done in one semester (eighteen weeks) and in one recitation hour with two preparation hours a week, or in three hours practice or laboratory work requiring no outside preparation. No student is permitted to register for less than fourteen hours or more than seventeen hours of work in any one semester.

Required and Elective Courses.

Of the one hundred and twenty-eight hours credit required for the degree eighty-nine hours are definitely prescribed as indicated in the curriculum which follows. The remaining thirty-nine hours' credit must be elected from such courses as may be prescribed by the class officer. The required and elective courses in the subject of home economics must amount to not fewer than forty hours in all.

To qualify for the vocational home economics certificate, the student must take the following courses in addition to those listed in the curriculum:

Home Economics, 51, 52, 36 and 37.
Education 4, 5, 10 and 22.
Elective courses in education, 3 hours.

For students interested in rural life the following courses are recommended: Home economics 50; Horticulture 2 and 3; Poultry husbandry 1; Dairy husbandry 21.
ment before registering.

Class Officer.

The head of the department of home economics will act as class officer.

All students who wish to enter the university for the purpose of taking home economics should confer with the head of the department before registering.

Thesis.

Each candidate for the degree of Bachelor of Science in Home Economics will be required to prepare a thesis on some subject related to the work in home economics. The thesis will be based upon the student's personal work. The subject of the thesis must be presented in writing to the head of the home economics department by the first of November of the academic year in which the student is a candidate for a degree. The completed thesis must be presented for approval not later than thirty days prior to commencement day.

Classification of Students.

To be classified as a conditioned freshman a student must have credit for at least thirteen units of entrance requirements; to be classified as a regular freshman she must have fulfilled all entrance requirements. To be classified as a sophomore she must have credit for twenty-five hours of college work; as a junior fifty-eight hours; as a senior, ninety-two hours.

Curriculum Leading to the Degree of B. S. H. E.

Freshman Year—First Semester.

		Hrs.
English I	8:00 M. W. F.	3
Chemistry I	9:00 M. W. F.	4
Laboratory	2:00 T. Th.	
Home economics I	10:00 M. and F.	4
Laboratory	10:00–12:00 T. Th.	
History 19	11:00 M. W. F.	3
Home economics 41	2:00 M. F.	2
		16

Electives: English 26 and 27.

Freshman Year—Second Semester.

English 2	8:00 M. W. F.	3
Chemistry 2	9:00 M. W. F.	4
Laboratory	2:00 T. Th.	
Home economics 2	10:00 M. F.	4
Laboratory	10:00–12:00 T. Th.	
History 29	11:00 M. W. F.	3
Home economics 42	2:00 M. F.	2
		16

Sophomore Year—First Semester.

Botany I	8:00 M. F.	4
Laboratory	2:00 M. F.	
English 26	8:00 T. Th.	2
Home economics 11	9:00 T. Th.	4
Laboratory	10:00–12:00 T. Th.	
Education 17	10:00 M. W. F.	3
Elective		3
		16

Sophomore Year—Second Semester.

Botany 2	8:00 T. Th.	4
Laboratory	2:00 W. and 9:00 S.	
English 27	8:00 T. Th.	2
Home economics 14	2:00–5:00 M. F.	4
Education 12	10:00 M. W. F.	3
Elective		3
		16

Electives: Home economics 41 and 42; Hygiene and sanitation 9; Home economics 9; Hort. 3, Poultry 1, Dairy husbandry 21. Zoology 1 and 2 may be substituted for Botany 1 and 2 if necessary to meet requirements.

Junior Year—First Semester.

		Hrs.
Hygiene and sanitation 9	8:00 T. Th.	2
Chemistry 16	9:00 T. Th.	3
Laboratory	2:00 W.	
Home economics 24	10:00 T. Th.	4
Laboratory	2:00 T. Th.	
Home economics 12	2:00–5:00 M. F.	3
Elective		4
		16

Junior Year—Second Semester.

Home economics 9	8:00 T. Th.	2
Botany 10	11:00 T. Th.	3
Laboratory	2:00 W.	
Home economics 25	10:00 T. Th.	4
Laboratory	2:00 T. Th.	
Home economics 44	2:00 M. F.	3
Elective		4
		16

Electives: Home economics 20, Soc. 1, 9, Education 4, 5, if necessary to meet requirements.

Senior Year—First Semester.

Sociology I	10:00 M. W. F.	3
Home economics 51	11:00 T. Th.	2
Home economics 17	2:00 T. Th.	3
Elective		8
		16

Senior Year—Second Semester.

Home economics 52	10:00 M. F.	2
Sociology 9	9:00 T. Th.	2
Elective		12
		16

Electives: Education 10 and 22; Home economics 26 and 27 and 20, Hort. 3, Poultry 1, Dairy husbandry 21, if necessary to meet the requirements.

COURSES IN HOME ECONOMICS.

Professor COLWELL, Assistant Professor BRECK, Miss MACLAY, Miss MILNER, Miss HESS, and Miss YOUNG.

(1) Students in the College of Arts and Science who select home economics as their major are required to take Courses 1 and 2 or 31 and 32, 24, in the food group, Courses 9 and 14 in the house and family group, and Courses 41, 42, 11, 12, and 44 in the clothing and textile group. Students who are preparing to teach home economics must also take Courses 26 and 27.

(2) Science requirements: Chemistry 1 and 2 and Botany 1 and 2, or Zoology 1 and 2, are prerequisites or parallel for all courses in home economics except certain courses listed below. Chemistry 16 and Botany 10 are prerequisite or parallel courses for most of the advanced courses in home economics and for all who wish to teach home economics.

(3) Students who do not wish to take the sciences required may elect the following courses: 41, 42, 11, 14.

(4) Attention is called to the fact that students who take the B. S. H. E. degree are required to take in addition to home economics courses required for the A. B. degree, Courses 17, 20 and 25.

(5) Students who wish to take the advanced work in home economics are expected to have repeated in the home, until skill has been required, the problems given in the elementary courses.

Foods.

1. Selection and Preparation of Food. (4 Hrs.) A study of the chemical composition, relative physiological and economic value of the animal foods and their products; processes in the production of raw food material. It is recommended that Chemistry 1 and 2 precede or parallel this course.

First semester; M. F. 10:00; laboratory sections (limited to 20 students each), for students in the College of Agriculture; T. Th., 10:00-12:00; other sections M. F., 2:00-4:00; Miss MILNER, 208, 212, O.

2. Selection and Preparation of Food. (4 Hrs.) Continuation of course 1. A study of the chemical composition and relative physiological and economic value of the vegetable foods and their products; processes in the production of raw food material; principles of diet. Prerequisite: Same as in course 1.

Second semester; M. F., 10:00; laboratory sections (limited to 20 students each), for students in the College of Agriculture; T. T., 10:00-12:00; other sections M. F., 2:00-4:00; Miss MILNER, 208, 212, O.

31. Selection and Preparation of Food. (3 Hrs.) Similar to course 1. For students who offer one unit of cooking for entrance.

First semester; T. Th., 9:00; laboratory sections, M. and W., 2:00; Miss MACLAY; 208 and 112. O. H.

32. Selection and Preparation of Food. (3 Hrs.) Similar to course 2. For students who offer one unit of cooking for entrance.

Second semester; T. Th., 9:00; laboratory sections, M., and W., 2:00; Miss MACLAY, 208 and 112, O.

20. Experimental Cookery. (2 Hrs.) This course includes advanced work in food preservation and experimental work in cookery and reports on literature of the subject. Prerequisite or parallel, Home economics 24, 25.

First or second semester; M. F., 2:00-5:00; Miss MACLAY.

22. Demonstrations. (2 Hrs.) This course includes a study of how to select and how to present the subject of foods before organizations or groups of rural people. Prerequisite: Home economics 1 and 2.

First semester; T. Th., 4:00; Professor COLWELL.

23. Demonstrations. (2 Hrs.) Continuation of course 22. Prerequisite: Home economics 1 and 2.

Second semester; T. Th., 4:00; Professor COLWELL.

24. Elementary Dietetics. (4 Hrs.) A study of the fuel value of foods; the relation of the different foodstuffs to the fuel value and to the cost of foods, the food requirement of the normal adult and its cost. Prerequisite: Home economics 1 and 2. Parallel course. Chemistry 16.

First semester; T. Th., 10:00; laboratory sections, T. Th., 2:00; M. F., 2:00; Professor COLWELL and Miss MACLAY.

25. Dietetics. (4 Hrs.) A study of digestion, absorption, assimilation of the foodstuffs; amounts of food required for the nutrition of the normal adult at rest and at work; diet for infancy, youth, old age; special diets; cost of family dietaries. Prerequisite: Chemistry 16, Home economics 1, 2, 24.

Second semester; T. Th., 10:00; laboratory section, T. Th., 2:00; Professor COLWELL and Miss MACLAY, 208, O. H.

Textiles and Clothing.

11. Applied Design. (4 Hrs.) Principles of line, valor, color, and space relations are studied and applied to home furnishings, to dress and decorative objects. This latter includes painting of boxes. book ends, stenciling, block printing, and binding.

First semester; T. Th., 9:00; laboratory T. Th., 10:00-12:00; W., 2:00-5:00; Saturday, 9:00-12:00; Miss YOUNG, 212, O. H.

Second semester; T. Th., 2:00-5:00; Miss YOUNG, 212, O. H.

12. **Textiles.** (3 Hrs.) Brief study of the history and evolution of textile industries; of manufacturing conditions which affect the economic, hygienic, and aesthetic value of the material; household, chemical and microscopic tests, grading of textile materials; study of weaves and methods of dying.

First semester; M. F., 2:00-5:00; T. Th., 2:00-5:00; Miss HESS, 110, O. H.

41. **Elementary Course in Clothing.** (2 Hrs.) This course includes a study of cotton textiles, of constructive and decorative hand stitches, machine work, plain waist draft and its modifications applied to different types of cotton garments, and a study of clothing economics.

First semester; laboratory sections, M. and F., 2:00-5:00; T. and Th., 2:00-5:00; T. Th., 10:00-12:00; W., 2:00-4:00; S. 9:00-11:00 Miss MILNER and Miss YOUNG.

42. **Elementary Course in Clothing.** (2 Hrs.) A continuation of course 41. This course includes a study of linen textiles, of machine attachments, plain skirt draft and its modifications applied to different types of cotton garments; middy suit; study of line and color applied to simple cotton dress.

Second semester; laboratory sections, M. and F., 2:00-5:00; T. and Th., 2:00-5:00; T. Th., 10:00-12:00; W., 2:00-4:00; S. 9:00-11:00. Miss MILNER and Miss YOUNG.

44. **Selection and Construction of Clothing.** (3 Hrs.) A comparative study of the individual articles of actual wardrobes. Standards of line, color, texture, cost, are applied to the planning of a spring and summer wardrobe. A study of modifications of commercial patterns is applied to the construction of a summer dress, a silk dress. and a hat. Prerequisite: Home economics 14, 42, 11, 12.

Second semester; laboratory sections, M. F., 2:00-5:00; T. Th., 2:00-5:00., Miss HESS, 210, O.

17. **Selection and Construction of Clothing.** (3 Hrs.) A continuation of 44. Study of fall and winter wardrobe; principles of tailoring applied to a simple garment; a makeover garment in wool; a hat; children's clothing; family clothing budgets. Prerequisite: 41, 42, 44, 11, 12.

First semester; T. Th., 2:00-5:00; Miss HESS, 213, O. H.

The House and the Family.

9. Hygiene of the Family Group. (2 Hrs.) The purpose of this course is to give a knowledge of those principles of sanitation which are essential to the well-being of the family group. Prerequisite: Hygiene and Sanitation 9.

Second semester; T. Th., 8:00.

14. Home Planning and Furnishing. (4 Hrs.) Such a study of the house as will give the home keeper an intelligent knowledge of its construction, cost and sanitation and as will enable her to appreciate the relation of the house to the community civics; problems in treatment of floors, walls, ceilings, color and types of furnishing for the home; the selection of the furnishings for an estimated cost. Prerequisite: 11.

Second semester; T. Th., 9:00-12:00; W. 2:00-5:00; S. 9:00-12:00 Miss HESS and Miss YOUNG, 212, O. H.

51. Housewifery. (2 Hrs.) A study of the care of the equipment of the home under varied living conditions as represented by types of different homes. Prerequisite: All required courses in home economics for vocational home economics.

First semester; T. Th., 11:00; Miss HESS, 208, O.

52. Home Management. (2 Hrs.) A study of the administrative side of the home, which includes the budget and time schedule based upon data obtained in the food, clothing and shelter courses. Prerequisite: All required courses in home economics for vocational home economics.

Second semester; M. F., 10:00; Professor COLWELL.

50. Demonstration Home. (3 Hrs.) This course includes practical work in marketing, planning, and serving meals and other problems in home management. Students taking this course are expected to live in the demonstration home. Required of students in vocational education.

First or second semester.

Teachers' Courses.

26. Home Economics in Public Schools. (2 Hrs.) Open only to seniors. A brief survey of the development of home economics and its present status. Establishment of standards by means of which subject matter may be selected for elementary, secondary, and rural schools. Equipment for teaching Home economics. Parallel courses, Education 10 and 22. Prerequisite: All required home economics courses.

First semester; M. F., 8:00; Assistant Professor BRECK.

27. Teachers' Course in Home Economics. (2 Hrs.) This course includes a study of sequence of subject matter in planning courses of study in public schools; special methods of presentation; correlation with other subjects in the schools. Prerequisite: Home economics 26. Parallel education 22, if not previously taken.

Second semester; M. W. F., 9:00; Assistant Professor BRECK.

36. Vocational Home Economics in Public Schools. (2 Hrs.) A study of the subject matter which should be presented in vocational schools in clothing and textiles. Required of students in vocational education.

First semester; T. Th., 10:00.

37. Teachers' Course in Vocational Home Economics. (3 Hrs.) This course includes a study of sequence of subject matter in foods and home management for vocational schools. Prerequisite: Home economics 36. Required of students in vocational education.

Second semester; M. W. F., 9:00.

8. Special Problems. (1 to 4 Hrs.) Open to juniors and seniors. Thesis course. This course is designed to give advanced work in home economics problems. Lectures, conferences, laboratory work. Prerequisite: All elementary courses in home economics, Chemistry 1 and 2, Botany 1 and 2, or Zoology 1 and 2.

First or second semester; hours to be arranged, Professor COLWELL and Assistants.

IV. AGRICULTURAL EXTENSION DIVISION.

The Agricultural Extension Division was established by the University in 1907. Further support was given by an act of the State Legislature in 1913, legally establishing and defining the work of the Division (see Sec. 172, Chapter 71, Acts of 1913) and again in 1919 (see Chapter 2, Sec. 139, Act 1919—the school code).

The work of the Agricultural Extension Division is also supported by an act of Congress, approved May 8, 1914, known as the Smith-Lever Act which provides a gradually increasing appropriation for demonstration work in agriculture and home economics contingent upon equal appropriations by the State.

FORMS OF WORK.

By a co-operative agreement between the United States Department of Agriculture, the Extension Division, and the County Farm Bureau, county agents and home demonstration agents are employed to supervise the various forms of extension work in the counties.

The following are some of the forms of work carried on under this arrangement:

1. Demonstrations in the better care and feeding of livestock and poultry, care of orchards, use of legumes, crop rotations, home management, home conveniences, community scoring, etc.

2. Boys' and girls' club work, including projects in corn, potatoes, poultry, pigs, sheep, gardening, canning, and sewing. In connection with this work a 4-H Camp is held in several counties.

3. Farmers' and Farm Women's Clubs which community organizations co-operate in holding extension schools, farmers' institutes, reading circles, district and county agricultural exhibits, etc.

4. Publications and news service.

5. Correspondence in answer to inquiries requesting agricultural information.

THE FARMERS' WEEK.

The Farmers' Week is a week (usually the first week in January) set aside by the College of Agriculture and the West Virginia Federation of Farm Bureaus as a time when the delegations of farmers and farm women from the various counties and the officials of the college meet and confer relative to the rural work done and to be done in West Virgania.

The program consists of lectures and demonstrations on general agricultural subjects by members of the faculty and out of state experts. This instructional work is given each forenoon. In the afternoon the program is in charge of the West Virginia Federation of Farm Bureaus and is in the nature of conferences relative to various state problems confronting the rural people. The evening program usually consists of a musical program and a lecture by someone with a national reputation on some subject relating to rural life.

The week is open to everyone and no fees are charged.

Immediately following Farmers' Week the Extension Division carries on a series of extension schools. These schools are open to all. There are no fees or entrance requirements. They are especially planned for the farmers and farm boys who want to get some good practical training in agriculture but cannot arrange to attend high school or college.

Special lectures will be given each week by some of the most successful farmers in the state.

In addition to the Farmers' Week, the State 4-H Camp (Prize Winners' Course) for the members of the boys' and girls' clubs is held at the University in June. A special program for these young people is provided which program is so planned as to aid in their 4-H development—Head (mental), Heart (religious), Health (physical), and Hand (social).

Further information relative to the Farmers' Week, the Extension Schools and the work of the Extension Division may be obtained upon application to the Director Agricultural Extension, Morgantown.

THE COLLEGE OF LAW

THE FACULTY.

FRANK BUTLER TROTTER, A.M., LL.D., *President of the University*

HENRY CRAIG JONES, A.B., LL.B., *Dean and Professor of Law*

WILLIAM PATRICK WILLEY, A.M., *Professor of Law, Emeritus*

JAMES RUSSELL TROTTER, A.M., LL.B., *Professor of Law*

JAMES WIGGINS SIMONTON, A.B., J.D., *Professor of Law*

THOMAS PORTER HARDMAN, M.A., LL.B., JUR. D., *Professor of Law*

LEO CARLIN, A.B., LL.B., *Associate Professor of Law*

GEORGE EDWARD OSBORNE, A.B., LL.B., S.J.D., *Assistant Professor of Law*

MAURICE TAYLOR VAN HECKE, PH.B., J.D., *Assistant Professor of Law.*

WILBUR JONES KAY, A.M., *Professor of Public Speaking*

JUDGES OF THE PRACTICE COURT AND SPECIAL LECTURERS ON PRACTICE FOR 1920-1921.

JOHN T. GRAHAM, *Judge of Sixth Judicial Circuit*

JOHN C. McWHORTER, *Former Judge of Twelfth Judicial Circuit*

ISAAC GRANT LAZELLE, *Judge of Twenty-third Judicial Circuit*

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[1]KATHLEEN G. BINGHAM, *Secretary and Libarian*

[2]HELEN SARAH MOYLAN, A.B., *Secretary and Librarian*

STANLEY CLARENCE MORRIS, A.B., *Library Assistant*

ALBERT WILLIAM LAAS, A. B., *Library Assistant*

LOUIS ALAN McKEE, *Library Assistant*

[1] Resigned, November 24, 1920.
[2] Appointed, November 29, 1920.

HISTORY AND PURPOSE.

The College of Law was established in 1878 and is the oldest professional school in the University. It is the only law school in the state of West Virginia. A large proportion of the bench and bar of West Virginia have been enrolled among its students.

Its course of instruction for the degree of Bachelor of Laws, originally requiring but one and later two years of law study, was, in 1912, fixed at three years. In 1913 a requirement of one year of college work for admission was added.

In 1914 the College of Law was admitted to membership in the Association of American Law Schools, an organization of the leading law schools of the United States for the purpose of establishing and maintaining high standards of legal education.

The purpose of the instruction given in the College of Law is to train the student thoroughly in the principles and procedure of the common law with particular reference to their application or modification by decision and statute in West Virginia.

EQUIPMENT.

The College of Law occupies space on the second and third floors of Woodburn Hall. About one-half of this space is used by the law library and the private offices of the members of the law faculty. The remainder is devoted to class-room and practice-court use.

NEW LAW BUILDING.

The appropriation has been made and plans have been approved for the construction of a new building for the exclusive use of the College of Law. The building will be of fire-proof construction, one hundred and thirty-eight feet in length, fifty-six feet in minimum width, and three stories in height. It will contain three class-rooms, a fully-equipped practice court room, study-rooms with space for one hundred fifty readers, private offices for members of the faculty, the dean, the librarian and the secretary, a Law Quarterly room, club rooms for both men and women students, locker rooms with a capacity of two hundred and fifty, a clerk and sheriff's office, and stack and shelf space for sixty thousand volumes. It is expected that the building will be ready for occupancy in the summer of 1922.

LAW LIBRARY.

The Law Library numbers about 15,000 volumes. It contains the reports of the highest courts of all the States. the insular possessions, and the District of Columbia, either complete or to the National Reporter System (including several sets of Virginia and West Virginia reports), most of the published reports of the lower courts of the various States, the complete National Reporter System, the complete reports of the Federal courts, the various sets of annotated selected cases, the various American and English encyclopedias of law, the complete general digest system of the West Publishing Company, a collection of English reports containing the English Reprint and the Law Reports, the most important Canadian Reports, complete sets of leading English and American legal periodicals, over 100 volumes of treatises, over 800 volumes of state and federal statutes, including the latest codes, compilations and acts of the United States and of all the states together with a complete collection of the various codes and acts of Virginia and West Virginia, complete sets of the English Statutes, and over 500 volumes of briefs and records of cases decided by the Supreme Court of Appeals of West Virginia.

ENTRANCE REQUIREMENTS.

CANDIDACY FOR THE DEGREE OF BACHELOR OF LAWS.

The following persons will be admitted to the College of Law as candidates for the degree of Bachelor of Laws:

1. Graduates of colleges of approved standing.

2. Those having credit: (a) for fifteen units preparatory work (see below), and (b) for not less than 32 hours of work of collegiate grade in an institution of approved standing, which must include six hours of English (English 1 and 2 or equivalent), three hours of economics, and six hours of history. Persons having credit for all preparatory entrance requirements and twenty-nine of the thirty-two required hours may be granted admission to the first year class, conditioned upon the removal of such deficiency before the opening of the following year.

To satisfy the fifteen units of secondary school work (work of a standard four-year high school), the following groups are required:

(1) Four units of English.
(2) Three units in any other subject.
(3) Two units in a third subject.
(4) Two units in a fourth subject.
(5) Four units elective.

Two units of Latin must be offered. These two units will satisfy one of the two-unit group requirements.

Work in the following subjects not to exceed the number of units placed after each subject will be accepted.

English	4 units	Science[3]	
		Physics	1 unit
Foreign languages[2]		Chemistry	1 unit
Latin	4 units	Biology	1 unit
Greek	3 units	Botany	1 unit
French	3 units	Geology	1 unit
German	3 units	Zoology	1 unit
German	3 units	General science	1 unit
Spanish	2 units	Physical geography	1 unit
Italian	2 units	Physiology	1 unit
		Hygiene and sanitation	1 unit
Mathematics			
Algebra	1½ units	Vocational subjects (not to exceed four units in all.)	
Plane geometry	1 unit		
Solid geometry	½ unit	Agriculture	3 units
Trigonometry	½ unit	Household arts	3 units
		Manual training	3 units
History and economics		Bookkeeping or bookkeeping and commercial arithmetic	2 units
History	3 units		
Civics	1 unit	Shorthand and typewriting	2 units
Elementary economics and sociology	1 unit	Commercial geography	½ unit
		Commercial law	½ unit
Education	2 units		
		Music:—violin, organ or piano[4]	2 units
Drawing			
Free-hand drawing	1 unit		
Mechanical drawing	1 unit		

[1] These admission requirements are effective from May 1, 1919, but graduates from high schools in 1919, 1920, or 1921 may, if they prefer, enter under the requirements as stated in the University catalogue for 1918-19.

[2] Not less than two units of one foreign language will be accepted for entrance.

[3] A group of two units in science may be made by combining one unit each of physics and chemistry or one unit each of any two of the following: biology, botany, zoology, geology. A group of three units in science may be made by combining one unit each of any three of the following: physics, chemistry, biology, botany, zoology, geology.

[4] For conditions governing credit for music see page 59 of the General Announcements.

PRE-LEGAL COURSES IN COLLEGE OF ARTS AND SCIENCES.

Students are urged to complete at least three years of work in the College of Arts and Sciences before entering the College of Law, thus placing themselves in position to take advantage of the combined six-year course which leads to both arts and law degrees. Thorough work of collegiate quality in American constitutional and English constitutional history, economics, and English is particularly essential.

Students who offer only one year (32 hours) of college credit for admission are required to have completed the following courses: English 1 (3 hrs.), English 2 (3 hrs.), Economics 1 (3 hrs.). The student must also have completed six hours of history which should include History 17 (or 18) and History 22. Students coming from other colleges must present equivalent courses. In satisfaction of the remaining 17 hours, which are elective, the following are recommended as best suited to pre-legal students: History 23 (3 hrs.), History 18 (3 hrs.), Economics 2 (3 hrs.), English 26 (2 hrs.), English 27 (2 hrs.), and one or two courses in public speaking.

For students who offer two years (64 hours) of college credit for admission, the following work is recommended in addition to that required or recommended for students offering only one year of college credit: An advanced course in composition and rhetoric (preferably English 4), History 20 (2 hrs.), History 35 (2 hrs.), History 37 (1 hr.), (or 40), Public Speaking 14 (2 hrs.) and 15 (2 hrs.), Economics 5 (3 hrs.), Economics 6 (4 hrs.). Economics 11 (3 hrs.), Sociology 1 (3 hrs.), and Engineering 100 (3 hrs.).

Students who do not offer two years of Latin for entrance to the freshmen class in the College of Arts and Sciences must satisfy this requirement during the period of pre-legal study.

SPECIAL STUDENTS.

In rare instances persons who cannot qualify as condidates for the degree of bachelor of laws may be admitted as special students on petition to the Committee of Entrance, approved by the faculty of the College of Law. The applicant must show that he is more than 22 years of age, that he is unable to pursue such studies as will qualify him for admission as a regular student, that he possesses such educational training and practical experience as should enable him to pursue the study of law satisfactorily, and that he has satisfied the academic requirements specified by the order of the Supreme Court of Appeals, passed May 6, 1915, as preliminary to law study

for all persons seeking admission to the bar in West Virginia. (See page 264.) Permission to enter as a special student will be granted only in exceptional cases and will be subject to termination for unsatisfactory scholarship or conduct.

Special students may be admitted to the West Virginia bar only after having passed the state bar examination.

STUDENTS IN OTHER COLLEGES.

Students of at least junior standing in other colleges of the University may be permitted to take work in the College of Law subject to the regulations of the College where they are registered and of the College of Law, but conditioned in each case upon the consent of the instructor giving the course which such student desires to take.

ADMISSION TO COMBINED COURSE.

A student may secure the degree of Bachelor of Arts and Bachelor of Laws in six years under the following regulation of the College of Arts and Sciences.

Any candidate for the A. B. degree, who, at the end of the junior year has completed 96 semester hours and who has satisfied all other requirements of the College of Arts and Sciences for this degree, may in his senior year take the full first year of the law course, and upon completion of the same shall be entitled to receive the degree of Bachelor of Arts. But if a student has to his credit 92 semester hours at the end of his junior year, he may. subject to the approval of the dean of the College of Arts and Sciences and the dean of the College of Law, be allowed to enter upon the first year of the work of the law course, in which case the degrees shall be withheld until he attains four additional credit hours. Such cases, however, shall be treated as exceptions and the student is urged to complete the entire 96 hours of required work in the College of Arts and Sciences before beginning the study of law. No student may substitute the first year of law as above provided, who shall have failed to maintain a uniform record of good scholarship to the end of his junior year in the College of Arts and Sciences.

No work included in the above 96 credits and counted toward the A.B. degree may be again counted toward the LL.B. degree.

ADMISSION TO ADVANCED STANDING.

Applicants for admission to advanced standing must satisfy the following requirements:

1. Compliance with the requirements for admission to the first year class.

2. For admission to the second year class, applicants must have successfully pursued the study of law for at least one year in an approved law school, where they have received credit for courses equivalent to those required for admission to the second year class in the College of Law.

3. For admission in the third year class, applicants must have successfully pursued the study of law for at least two years in an approved law school where they have received credit for courses equivalent to those required for admission to the third year class in the College of Law.

No credit will be given for work done in a law office.

No student may receive the degree of Bachelor of Laws without at least one year's residence in the University and the successful passing of courses aggregating twenty-eight semester hours pursued in the College of Law.

Any applicant for advanced standing may also, in the discretion of the law faculty, be required to undergo an examination in any or all of the subjects presented for advanced standing.

REQUIREMENTS FOR DEGREES.

BACHELOR OF LAWS.

Students who have satisfied the preparatory and college requirements for entrance to the College of Law as candidates for the degree of bachelor of laws, and who have satisfactorily completed courses aggregating eighty-six hours, distributed over three years residence and who have otherwise satisfied the requirements of the University and of the College of Law, will be granted the degree of Bachelor of Laws.

The eighty-six hours offered by a student for the degree of bachelor of laws must include the following courses: Contracts, Personal property. Agency, Torts, Actions, Common law pleading, Criminal law and procedure, Real property I, Real property II, Evidence, Equity jurisdiction I, Practice and procedure, and Practice court.

Such students may be required to take military science after enrolling in the College of Law will be permitted to substitute two hours' credit in military science for two hours of law.

ADMISSION TO THE BAR.

Under the provisions of ch. 119, sec. 1, of the West Virginia Code, those who receive the degree of bachelor of laws from the West Virginia University may be admitted to the bar without further examination.

Bar Examinations.

All persons seeking admission to the West Virginia bar, except those who hold the degree of bachelor of laws from West Virginia University, are required to take and pass the state bar examination.

The bar examinations are held at Charleston, commencing on the second Wednesday of March and of September.

An order of the Supreme Court of Appeals entered May 6, 1915, provides that persons applying for license to practice law in West Virginia must satisfy the following requirements as to period of study and degree of preparation:

"(a) A preliminary academic education equivalent to that required for graduation from a high school of the first class in West Virginia, which may be evidenced by a diploma of graduation from such a high school or by a certificate showing equivalent credits from any other school whose credits would be accepted for admission to West Virginia University. or by passing an examination on equivalent subjects.

"(b) Three years of diligent law study as a student in the office of and under the direction of, a member of the bar of this State (or another state), or as a resident student in an approved law school, evidenced by a certificate to the State Board of Law Examiners by the attorney under whom, or the head of the law school at which, such study was pursued, showing in detail the work done. In interpreting the above requirement, not less than ten months, exclusive of vacations, shall constitute one year of office study, and not less than eight months, exclusive of vacations, shall constitute one year of law school study."

Information as to bar examinations and as to other matters relating to admission to the bar may be obtained upon inquiry directed to the Secretary, State Board of Law Examiners, Charleston, W. Va.

WEST VIRGINIA LAW QUARTERLY.

The West Virginia Law Quarterly is published by the faculty of the College of Law and appears in November, January, April and June. It is the official publication of The West Virginia Bar Association.

COURSES AND EXAMINATIONS.

COURSES.

All courses extend either throughout the entire year or through one semester. No credit will be given for less than an entire course except by special order of the law faculty. Grades given at the end of the first semester in courses extending throughout the year are merely indicative of the quality of work done by the student to that point and do not given credit for the part of the course so far pursued. Such first semester grade may be considered in determining the final grade. Any student who fails in the first semester's work in any such course will not be permitted to continue that course.

EXAMINATIONS.

Students are required to take all regular examinations. No student who absents himself from any such examination without being excused therefrom by the faculty of the College of Law, will receive credit unless he repeats the course successfully. If absence from a final examination is granted by the faculty, the student's grade in that course will be withheld until he has passed the next examination for the removal of conditions in the course. Application for leave to be absent from a regular examination must be made before the hour at which such examination closes.

Regular Examinations are held at the end of each semester in all courses. The period devoted to such examinations and the length of time of each examination are determined by the faculty of the College of Law.

Examinations for Removal of Conditions are held during the seven days immediately following the day for mid-semester reports in the second semester and the seven days immediately following the opening of the University in the fall. No other special examinations are given.

GRADES.

Reports of students' grades are made at the end of each semester If such grade be reported at the end of the course, it is the student's grade for the course; if at the end of the first semester in a course extending throughout the year, it is merely indicative of the quality of the student's work that far in the course.

In determining grades the instructor gives such weight as he deems best to examinations, daily recitations. and attendance. He may refuse examination to any student because of poor attendance. One per cent. is deducted by the Registrar from the grade reported

by the instructor for each unexcused absence in the course during the semester for which the grade is given.

The privilege of final examination is denied a student absent, for any cause, from 20% of the class periods of a course, or from 25% of the class periods of the last semester of a course running through the year. The privilege of mid-year examination is denied a student absent, for any cause, from 25% of the class periods of the first semester, in a course running through the year, and he will be requested to drop the course. The operation of this rule may be suspended by the law faculty in cases where substantially all of the absences were unavoidable, but in all such cases the time lost must be made up by attendance at an approved law school before the student will be recomemnded for a degree or before his attendance will be certified to another law school.

Students who fail in any course are given no credit for it.

A student who is conditioned in any course will receive no credit for it unless he pass the next examination for removal of conditions. in that subject, provided, however, that the faculty may require a student to complete certain supplementary work in lieu of such examination or in addition thereto.

The law faculty may warn any student whose work is deemed unsatisfactory, place him on probation., or refuse his re-registration in the College of Law.

METHOD OF INSTRUCTION.

The work of the students is based chiefly upon the study and discussion of decided cases, with collateral reading of statutes, approved text-books and periodicals, elucidated by free discussion in the class.

COURSES IN PRACTICE AND PROCEDURE.

Practice and Procedure. Instruction in practice and procedure is prepartory and supplementary to the work of the practice court, and is conducted by text-book, lectures and special study of the statutes and decisions governing West Virginia practice and procedure. Attention is given to the jurisdiction and functions of the Supreme Court of Appeals, the Circuit, County and inferior Courts, and the powers, duties, and liabilities of attorneys at law as officers of the court. Incidental consideration is also given to the canons of professional ethics adopted by the American Bar Association and the West Virginia Bar Association. The statutes and decisions governing the purpose and use of special legal and equitable remedies, such as attachment, garnishment. statutory motions, injunctions, etc., receive careful attention. Attention is also given to the procedural phases of the extraordinary legal remedies, such as mandamus, habeas corpus, certiorari, quo warranto, prohibition, etc.

Practice Court. The practice court exercises original jurisdiction in law, equity, criminal, and probate cases, and appellate jurisdiction in appeals from inferior tribunals.

Every third-year student, before receiving the bachelor's degree is required to prepare the pleadings and prosecute to judgment the required number of cases in the practice court. The equivalent of at least five hours in each week during the second semester must be spent by each third-year student in participation in practice court work in the court room.

Statements of facts are furnished, such as would be related to a lawyer in active practice by his client. Each student must determine whether or not upon such facts the particular case in hand is one of common law. equity, criminal or probate cognizance. He must then frame his pleadings, serve his summons or notice and answer his adversary pleadings until issue is joined in legal manner, after which the case is brought on for hearing in strict accordance with settled legal procedure, witnesses are examined and cross-examined, and the case is conducted through all the various stages of the trial or hearing down to and including the judgment, decree or sentence, after which, should the case be appealed, it must be carried through the Supreme Court, involving the preparation of the record on appeal, briefs of counsel, etc.

The clerk and his assistant are chosen from the student body, from whose ranks are also drawn a sheriff, jurors, and other officials. thus giving to the students the benefits of practice in administrative judicial machinery. The sessions are presided over by that member of the law faculty who has charge of practice courses and by circuit judges especially chosen for the work.

Drafting of Legal Instruments. Students are instructed in this course in the actual preparation of deeds, mortgages, wills, abstracts and opinions of title, assignments, contracts, partnership agreements, and other legal instruments which a lawyer is called upon to prepare. Statements of facts are furnished to the class by the instructor in charge and each student is required to prepare the various forms of instruments. These are corrected by the instructor and are discussed and criticised in class. Careful consideration is given to special forms of execution and acknowledgement when one of the parties is a corporation, a partnership. a married woman, or the like.

Drafting of Pleadings. This work complements the course in the principles of common law pleading by giving the student practical knowledge and experience through the drafting of the pleading themselves. Statements of facts such as a client might relate to an attorney are furnished to the student on which he is required to draft declarations, pleas, replications, etc. Instruction of a similar nature is given in connection with the course in Equity Practice and Procedure.

COURSES OF INSTRUCTION.

The curriculum leading to the degree of Bachelor of Laws covers a period of three academic years. The work of the first year is prescribed. All of the studies of the second year are elective except Common Law Pleading, Evidence, Real property II, and Equity jurisdiction I, and all of the third year courses except Practice and procedure and Practice Court. Second year courses may be elected by third year students, but third year courses will not in general be open to second year students. A few subjects that are given only in alternate years may be elected by both second and third year students. All required courses are marked by an asterisk.

It is expected that each student will carry fourteen hours of class room work per week during the first and second years and fifteen during the third year. Not less than thirteen nor more than sixteen hours may be carried without the special consent of the law faculty.

PROGRAM OF COURSES FOR 1921-22.[1]

FIRST YEAR.

***Actions.** (2 Hrs.) Two hours a week in the first semester. Sunderland, Cases on Common Law Pleading and required readings. Associate Professor CARLIN.

***Agency.** (4 Hrs.) Four hours a week in the second semester. Wambaugh, Cases on Agency. Professor HARDMAN.

***Contracts.** (6 Hrs.) Four hours a week in the first semester and two hours a week in the second semester. Williston, Cases on Contracts. (2d ed.) Assistant Professor OSBORNE.

***Criminal Law and Procedure.** (4 Hrs.) Four hours a week in the first semester. Mikell, Cases on Criminal Law and Criminal Procedure. Professor J. R. TROTTER.

***Personal Property.** (2 Hrs.) Two hours a week in the first semester. Bigelow, Cases on Property, vol. 1. Professor SIMONTON.

***Persons and Domestic Relations.** (2 Hrs.) Two hours a week in the second semester. Smith. Cases on Persons. Professor J. R. TROTTER.

***Real Property I.** (2 Hrs.) Two hours a week in the second semester. Bigelow, Cases on Property, vol. 2. Professor SIMONTON.

***Torts.** (6 Hrs.) Two hours a week in the first semester and four hours a week in the second semester. Ames and Smith, Cases on Torts, Pound's Edition. Professor H. C. JONES.

Second Year.

***Common Law Pleading** and Drafting of Pleadings (4 Hrs.) Four hours a week in the second semester. Sunderland, Cases on Common Law Pleading. Associate Professor CARLIN.

[**Damages.** (2 Hrs.) Two hours a week in the second semester. Beale, Cases on Damages. (2d ed.) Omitted in 1921-22.]

***Equity Jurisdiction I.** (4 Hrs.) Two hours a week throughout the year. Ames, Cases on Equity Jurisdiction, vol. I. Professor H. C. JONES.

***Evidence.** (5 Hrs.) Five hours a week in the first semester. Thayer, Cases on Evidence, (2nd ed.) Professor HARDMAN.

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[1] The program of courses as here given is subject to change.

Insurance. (2 Hrs.) Two hours a week in the second semester. Wambaugh, Cases on Insurance. Given in 1921-22 and in alternate years thereafter. Professor SIMONTON.

[**Legal Ethics.** (2 Hrs.) Two hours a week in the first semester. Costigan, Cases on Legal Ethics. Omitted in 1921-22 and in alternate years thereafter. Associate Professor CARLIN.]

Negotiable Instruments. (3 Hrs.) Three hours a week in the first semester. Smith and Moore, Cases on Bills and Notes, Professor HARDMAN.

***Real Property II.** (4 Hrs.) Four hours a week in the first semester. Aigler's Cases on Property. Professor SIMONTON.

Sales of Personal Property. (4 Hrs.) Four hours a week in the second semester. Woodward, Cases on Sales. Professor J. R. TROTTER.

Trusts. (4 Hrs.) Four hours a week in the first semester. Scott, Cases on Trusts. Assistant Professor OSBORNE.

Wills and Administration. (2 Hrs.) Two hours a week in the second semester. Warren, Cases on Wills and Administration. Given in 1921-22 and in alternate years thereafter. Professor J. R. TROTTER.

Third Year.

Bankruptcy. (2 Hrs.) Two hours a week in the first semester. Williston, Cases on Bankruptcy (2d ed.) Given in 1921-22 and in alternate years thereafter. Professor SIMONTON.

Conflict of Laws. (4 Hrs.) Four hours a week in the second semester. Beale, Cases on Conflict of Laws, (shorter selection.) Assistant Professor OSBORNE.

Constitutional Law. (4 Hrs.) Four hours a week in the first semester. Wambaugh, Cases on Constitutional Law. Professor H. C. JONES.

Drafting of Legal Instruments. (1 Hr.) One hour a week in the second semester. See page 267 for information as to the work in this course. Associate Professor CARLIN.

[**Equity Jurisdiction II.** (2 Hrs.) Two hours a week in the second semester. Ames, Cases on Equity Jurisdiction, vols. 1 and 2 (parts). Omitted in 1921-22 and alternate years thereafter. Professor H. C. JONES.]

Quasi-Contracts. (2 Hrs.) Two hours a week for the second semester. Woodruff's Cases on Quasi Contracts. Given in 1921-22 and in alternate years thereafter. Professor SIMONTON.

Equity Pleading and Practice. (2 Hrs.) Two hours a week for the first semester. Selected cases. Given in 1921-22. Associate Professor CARLIN.

Mining Law. (2 Hrs.) Two hours a week in the second semester. Selected cases on rights in coal, oil and gas. Professor SIMONTON.

[**Municipal Corporations.** (2 Hrs.) Two hours a week in the first semester. Beale, Cases on Municipal Corporations. Omitted in 1921-22 and in alternate years thereafter. Professor SIMONTON.]

[**Partnership.** (4 Hrs.) Four hours a week in the second semesester. Gilmore, Cases on Partnership. Omitted in 1921-22 and in alternate years thereafter. Professor J. R. TROTTER.]

***Practice and Procedure.** (4 Hrs.) Four hours a week in the first semester. Munson, Elementary Practice, selected cases, statutes, and lectures. See page 266 for information as to work in this course. Associate Professor CARLIN.

***Practice Court.** (3 Hrs.) Court sessions and lecture periods in the second semester as specified by the faculty. See page 267 for information as to work of the practice court. Associate Professor CARLIN and circuit judges.

Private Corporations. (4 Hrs.) Four hours a week in the first semester. Warren, Cases on Private Corporations, (2d ed.). Professor J. R. TROTTER.

Public Speaking 14. Argumentation and Debate. (2 Hrs.) Two hours a week both in the first and in the second semester. See University catalogue, for information as to work in this course. Professor KAY.

Public Speaking 15: Advanced Argumentation and Debate. (2 Hrs.) Two hours a week in the second semester. See University catalogue, for information as to work in this course. Professor KAY.

Public Utilities. (4 Hrs.) Four hours a week in the second semester. Case books to be selected. Professor HARDMAN.

[**Real Property III.** (4 Hrs.) Four hours a week in the second semester. Kales, Cases on Future Interests. Omitted in 1921-22 and in alternate years thereafter. Professor SIMONTON.]

Suretyship. (2 Hrs.) Two hours a week in the second semester. Ames, Cases on Suretyship. Given in 1921-22 and in alternate years thereafter. Professor H. C. JONES.

REGISTER OF STUDENTS.
1920–1921.

Third Year.

Ahrens, Charles Boger — Wheeling
Furbee, Russell Logan — Mannington
A. B., West Virginia University, 1918.
Glasscock, William Ellsworth, Jr. — Morgantown
Hiner, Ralph McClung — Franklin
Hoover, Wendell Webster — Webster Springs
A. B., West Virginia University, 1920.
Hopkins, John Cogley — Cameron
Laas, Albert William — Benwood
A. B., West Virginia University, 1920.
Morris, Stanley Clarence — Buckhannon
A. B., Marietta College, 1914.
Roby, Clarence — Petersburg
A. B., West Virginia University, 1919.
Sanders, Joseph McDonald, Jr. — Bluefield
Wellen, Clyde William — Morgantown
A. B., West Virginia University, 1918.

Second Year.

Ball, Walter Frank — Grafton
[1] Brock, Robert Luther — Morgantown
A. B., West Virginia University, 1920.
Doolittle, Lambert McChesney — Huntington
Farmer, George Robert — New Martinsville
French, James Hoagland — Bluefield
Heavener, Chester Paul — Peterstown
A. B., Washington and Lee University, 1912.
Hogg, William Bennett — Point Pleasant
Hough, Roscoe Rhodes — Wellsburg
Kaltenbach, Harold Joseph — Wheeling
Keefer, William Francis — Wheeling
McChesney, Alice Johnson — Charleston
McKee, Louis Alan — Triadelphia
Nefflen, William Elliot — Keyser
Senior, College of Arts and Sciences.
Pool, Willard — Chester
Richards, George Cochran — Piedmont
Sanders, Carlton Custer — Philippi
A. B., West Virginia University, 1920.
Sayre, Floyd McKinley — Ripley
A. B., West Virginia University, 1920.
Shaw, Victor Hugo — Fairmont
Valentine, Mark Twain — Parsons

First Year.

[1] Alderson, John Duffy — Summersville
Senior, College of Arts and Sciences.
Anderson, James Lee — Littleton
Junior, College of Arts and Sciences.
Billingslea, Arthur Blake — Worthington
[2] Brannon, Linn Mapel — Weston
Senior, College of Arts and Sciences.
Burns, James Francis — Fairmont
Senior, College of Arts and Sciences.

Conaway, Mary Louise A. B., Rollins College, 1917.	Morgantown
Daugherty, Grattan Mitchell Senior, College of Arts and Sciences.	Hinton
Foose, Alphonse Maurice	Huntington
Hammond, Clay Duckworth Senior, College of Arts and Sciences.	West Union
[1]Heber, Raymond John	New Martinsville
Hereford, John Withers	Hogsett
[1]Hersman, Marion Rockafeller Junior, College of Arts and Sciences.	Grantsville
[1]Himes, William Daniel A. B., West Virginia University, 1920.	Sheperdstown
Holroyd, William McKinley	Athens
Hyman, Morton	Keystone
Kay, Robert Harry Christopher	Leon
Kelly, Robert Gorrell	Sutton
Mason, William Arthur Harrison	Philippi
Mauzy, Michael Harper A. B., West Virginia University, 1919.	Franklin
Marshall, Edmund	New Cumberland
McCauley, William Deles	Moorefield
[2]McCoy, George Talbott	Sistersville
McKee, John McDonald	Triadelphia
McKenzie, Thomas Fulton	New Cumberland
Nicholson, Somerville	Ridgeley
Rankin, Vernon Edwin	Berkeley Springs
Read, Thomas Leigh	Hinton
Reeder, Benjamin Garnet Senior, College of Arts and Sciences.	Salem
Richardson, Charles Joseph Senior, College of Arts and Sciences.	Sistersville
Riley, Robert Joseph A. B., Georgetown University, 1920.	Wheeling
Ryan, William St. Clair	Spencer
[1]Shuttleworth, Wayne Stacy Senior, College of Arts and Sciences.	Fairmont
Snyder, Melvin Claud	Albright
Stone, Erwin Bowman A. B., West Virginia University, 1920.	Morgantown
Talbott, Esker Wyne Senior, College of Arts and Sciences.	Philippi
Tomkies, Douglas Christian Senior, College of Arts and Sciences.	Hinton
[1]Warder, John McGraw	Grafton
Watkins, Harry Evans	Monongah
[1]Williams, Edgar A. M., Harvard University, 1915.	Morgantown
Yost, John Paul Ph.B., University of Chicago, 1920.	Pontiac, Illinois

Special.

[2]McGuire, Patrick Joseph	Webster Springs
[2]McKinley, Lloyd Henry	Lost Creek
Orr, William	Wheeling
[2]Sharp, George Winters	Marlinton

[1] First semester only.
[2] Second semester only.

THE SCHOOL OF MEDICINE

THE FACULTY.

FRANK BUTLER TROTTER, A.M., LL.D., *President of the University*

JOHN N. SIMPSON, A.B., M.D., *Dean and Professor of Medicine*

AARON ARKIN, M. D., PH. D., *Professor of Pathology and Bacteriology*

SAMUEL JOHN MORRIS, M.D., *Professor of Anatomy*

WITHROW MORSE, PH.D., *Professor of Physiology and Physiological Chemistry*

MARTIN LOXLEY BONAR, M.S., M.D., *Professor of Pharmacology*

GORDON ALGER BERGY, B.S., M.S., *Associate Professor of Pharmacy*

GIDEON STANHOPE DODDS, PH. D., *Associate Professor of Histology and Embryology*

THOMAS JEFFERSON MURRAY, M.S., *Associate Professor of Bacteriology*

CASSIUS HOWARD HOFRICHTER,[1] A.B., M.D., *Associate Professor of Pharamacology*

JACOB EARL THOMAS, B.S., M.D., *Associate Professor of Physiology*

IRVIN HARDY, M. S., M. D., *Clinical Professor of Surgery*

JOSEPH LESTER HAYMAN, PH.C., B. S., *Instructor in Pharmacy*

CHESTER GEORGE FUSS, PH.C., *Instructor in Pharmacy*

CHARLES McCHESNEY BRAY, A.M., M.D., *Instructor in Physical Diagnosis*

HENRI CHRISTIAN van der HEYDE, D.Sc., *Instructor in Physiology and Physiologcial Chemistry*

JULIUS FLOYD MORROW, B.S., *Assistant in Anatomy and Histology.*

RALEIGH MILLER MOLER, B.S., *Assistant in Pathology and Bacteriology*

CLARENCE LAWRENCE BEERS, PH.C., *Assistant in Pharmacology*

[1] Resigned, January 1921.

INSTRUCTION IN MEDICINE.

Regular instruction in subjects preparatory to the study of medicine was first given in West Virginia University in 1871, the "chair of anatomy, physiology, and hygiene," having been established in that year. A curriculum covering the first two years of a standard four years' medical course was provided in 1902 and the work was placed in charge of the College of Medicine with a resident faculty of six men. In 1912 the College of Medicine became the School of Medicine. In reorganizing the work in medicine the Board of Regents retained the general character of the curriculum previously offered but provided for a larger faculty, more laboratories and more adequate equipment.

As at present constituted the West Virginia University School of Medicine has its own dean and faculty but confers no degrees in medicine. It is not affiliated with any other college or school of medicine and its students may go where they like to complete their medical studies and receive the degree of M.D.

The work in physical diagnosis and in minor surgery is in charge of practicing physicians, members of the local medical profession.

THE MEDICAL BUILDING.

A three-story brick building furnishes room for the classes in medicine.

On the first floor are found the offices of the dean, the dispensary, the offices of the professors of pharmacology and physiology, the pharmacological and physiological laboratories and a general lecture room. On the second floor are the laboratories of bacteriology and pathology and two laboratories for physiological chemistry. On the third floor is a large laboratory for gross anatomy, one for histology and one large lecture room. Each laboratory is povided with an abundance of light. There is an incinerating plant for the disposal of refuse.

A suitable building, conveniently located near the School of Medicine is provided for the housing of animals used in experimental work. A well lighted room in the upper floor is used exclusively for operative surgery.

DISPENSARY AND STUDENT HEALTH SERVICE.

A dispensary open to the city poor is conducted by the physicians of the medical faculty. Free service is rendered. The treating of patients is done by the faculty but students of the second year class are instructed in the proper methods of examining and diagnosing disease. This work supplements the courses in physical diagnosis and minor surgery.

In return for the medical fee paid by all students free service is rendered to students by the faculty and drugs are supplied free from the pharmaceutical dispensary.

LABORATORIES.

ANATOMICAL LABORATORY.

The anatomical laboratory is equipped with a Balopticon for doing projective work, a complete set of imported models of the brain and nervous system, eye, ear, thoracic and abdominal viscera, joints and muscles. There are frozen sections of the body for use in the study of regional anatomy. Each student in gross anatomy has the use of a complete skeleton and each student in histology is provided with a microscope.

LABORATORY OF HISTOLOGY AND EMBRYOLOGY.

The laboratory of histology and embryology has a modern equipment of microscopes and provides microscope illumination with daylight glass for dark days. Each student is assigned a loan set of slides covering the subject matter of the course. The laboratory has also a collection of models of embryos and certain histological structures. A micro-projection apparatus is available. The preparation room is equipped with the necessary apparatus and reagents for making miscroscopic preparations.

PATHOLOGICAL LABORATORY.

The pathological laboratory is equipped with all necessary apparatus for general and special work, including paraffine and celloidin microtomes, freezing microtomes, paraffine ovens, miscroscopes with oil immersion lenses, all necessary stains and chemicals. There is also a projection apparatus with microscope attachment for demonstration purposes. The department possesses a large collection of mounted miscroscopic sections representing all the pathological processes, and a museum of gross specimens. Surgical material is obtained from the city hospital.

LABORATORY OF MEDICAL BACTERIOLOGY.

The bacteriological laboratory is equipped with all necessary apparatus, such as sterilizers, incubators, glassware, etc. Each student has the use of a microscope with oil immersion lens. Special apparatus for bacteriological examination of air, water, milk, and blood is supplied to each student. Material for laboratory work in bacteriological diaganosis, such as Widal tests for typhoid, examination of sputum for tubercle baccilli, bacteriological examination of water, etc., is available.

PHYSIOLOGICAL AND CHEMICAL LABORATORIES.

The laboratory devoted to the work in physiology is supplied with tables, each accommodating two students who work together. Each table has a complete set of Havard physiological apparatus which is lent to the student with a charge of breakage only. There are for general use kymographs, apparatus for work in blood pressure and blood counting, hemaglobinometers, charts and models.

The physiological chemistry laboratory is large and well-equipped. There is a stock room and a laboratory for research in connection with it.

PHARMACOLOGICAL LABORATORY.

The pharmacological laboratory is equipped with chemical desks, operating tables, and electrical kymograph and respiration apparatus for taking continuous records of respiration and blood pressure. Special animal cages are provided to meet the needs of courses 1 and 2, inclusive. In addition, a special animal house for the proper care of experimental material is provided. Aside from the general equipment of the laboratory, each group of two students is provided with individual sets of apparatus and reagents. The laboratory is also provided with a collection of crude drugs, alkaloids, glucosides, and analytical chemicals.

The chemical, botanical, and zoological laboratories of the University are also open to students in the School of Medicine.

LIBRARY AND READING ROOM.

The medical library consists of over 3500 bound volumes and many unbound journals and reprints. There is a good collection of works on chemistry, anatomy, physiology, pharmacy, zoology, botany, pathology, bacteriology, pharmacology, medicine and surgery. There are bound volumes of the leading scientific journals as well as many of the leading German, French and American journals devoted to the

laboratory side of medicine. The medical library occupies a separate room on the first floor of the Library building. It is open from 8:00 a. m. to 10:00 p. m. In addition each department has its own collection of books for the use of instructors and students.

MEDICAL SOCIETY.

The factulties of the School of Medicine and the Department of Pharmacy meet on Saturday morning twice a month from ten to 12 o'clock at which time original papers and reviews of current literature are presented by the members of the respective faculties. Students are welcome at these meetings.

TUITION AND FEES

Students in the School of Medicine who are residents of the State are required to pay a tuition fee of $25.00 a semester. For students not residents of the state the fee is $100.00 a semester. All students must pay the following additional fees each semester: Contingent fee, $12.50; Student Activity fee, $5.00; Medical fee, $2.50. A diploma fee of $10.00 is payable by each student at the beginning of the semester in which he expects to graduate.

ADMISSION TO THE COURSE IN MEDICINE.

SECONDARY SCHOOL CREDITS.

For admission to the course in medicine the student must have credit for fifteen units of secondary school work, i. e., the work of the standard four-year high school.

A. The following groups are required:
   (1) Four units of English.
   (2) Three units in one other subject.
   (3) Two units in a third subject.
   (4) Two units in a fourth subject.
   (5) Four units elective.

B. In addition to the four units of English the work indicated in (A) must include: two units of Latin, one unit of history, one unit of algebra and one unit of plane geometry.

C. Work in the following subjects not to exceed the number of units placed after each subject will be accepted:

English	4 units	Science[3]	
		Physics	1 unit
Foreign languages[2]		Chemistry	1 unit
Latin	4 units	Biology	1 unit
Greek	3 units	Botany	1 unit
French	3 units	Geology	1 unit
German	3 units	Zoology	1 unit
Spanish	2 units	General science	1 unit
Italian	2 units	Physical geography	½ unit
		Physiology	½ unit
Mathematics		Hygiene and sanitation	½ unit
Algebra	1½ units		
Plane geometry	1 unit	Vocational subjects (not to exceed four units in all.)	
Solid geometry	½ unit	Agriculture	3 units
Trigonometry	½ unit	Household arts	3 units
		Manual training	3 units
History and economics		Bookkeeping or bookkeeping and commercial arithmetic	2 units
History	3 units	Shorthand and typewriting	2 units
Civics	1 unit	Commercial geography	½ unit
Elementary economics and sociology	1 unit	Commercial law	½ unit
Education	2 units	Music:—violin, organ or piano[4]	2 units
Drawing			
Free-hand drawing	1 unit		
Mechanical drawing	1 unit		

[1] These admission requirements are effective from May 1, 1919, but graduates from high schools in 1919, 1920, or 1921 may, if they prefer, enter under the requirements as stated in the University catalogue for 1918-19.

[2] Not less than two units of one foreign language will be accepted for entrance.

[3] A group of two units in science may be made by combining one unit each of physics and chemistry or one unit each of any two of the following: biology, botany, zoology, geology. A group of three units in science may be made by combining one unit each of any three of the following: physics, chemistry, biology, botany, zoology, geology.

[4] For conditions governing credit for work in music see page 59 of the University catalogue.

COLLEGE CREDITS.

In addition to the fifteen units of secondary school credit as listed on the preceding page, the student must have credit for sixty-four hours' work done either in the College of Arts and Sciences of West Virginia University or in another institution of equal grade.

In accordance with the regulations of the American Medical Association and the Association of American Medical Colleges a schedule covering two years of premedical college work has been laid down as shown on pages

CONDITIONAL ADMISSION.

Under no circumstances will students be admitted to the course in medicine without having completed fifteen units of secondary school work and sixty hours of college work, including the subjects marked with an asterisk in the schedule, which are required by the medical association; but students who lack the remaining four hours of college work may be admitted to the course conditionally and may find opportunity to remove the condition in the Summer School or elsewhere before the completion of their two years in the School of Medicine.

FILING OF HIGH SCHOOL CERTIFICATES.

By a resolution of the State Board of Health all applicants for license to practice medicine in West Virginia are required to file with the secretary of the Board their certificate of high school graduation or its equivalent. The secretary will investigate doubtful cases, asking the aid when necessary of the University Committee on Classification and Grades.

THE COMBINED B. S. AND M. D. COURSE.

A student who desires to prepare himself for the practice of medicine and who has satisfied the requirements for entrance to the freshman class of the College of Arts and Sciences may matriculate in the College of Arts and Sciences and announce his intention of taking a combined scientific and medical course. After removing all entrance conditions and completing sixty-four hours (two years) of work in this college he may enter upon the two years course of the School of Medicine. On the completion of the course of this School he will receive the degree of Bachelor of Science. He may then enter a standard medical college, complete its course and receive the degree of Doctor of Medicine. His college and medical course together will in this case usually occupy six years.

The courses required in the College of Arts and Sciences and in the School of Medicine are indicated in the following schedule.

Courses in the College of Arts and Sciences.

First Year—First Semester.		First Year—Second Semester.	
*English 1	3	*English 2	3
English 26[1]	2	English 27[1]	2
*Chemistry 1	4	*Chemistry 2	4
*Zoology 1	4	*Zoology 2	4
German or French[2]	3	German or French[2]	4
Military science	1 17	Military science	1 17
Second Year—First Semester.		**Second Year—Second Semester.**	
*Physics 1	3	*Physics 3	3
*Physics 2	1	*Physics 4	1
*Chemistry 18	5	Philosophy 12	3
Elective 5	5	Chemistry 9	5
Military science	1 15	Elective	2
		Military science	1 15

Courses in the School of Medicine.

Third Year—First Semester.

COURSE	Hours a Week		Hours a Semester			PERIODS	CR.
	Lect.	Lab.	Lect.	Lab.	Total		
Physiological Chemistry 10	3	10	54	180	234	A. Lab., M. Th., 8-12 S. 8-10 B. Lab., T. F., 8-12 S. 11-1 Lect., W., 11-1. S. 10-11	5
Histology 12	2	8	36	144	180	A. Lab. T. F., 8-12 B. Lab. M. Th., 8-12 Lect. W., 8-12	5
Anatomy 13	4	11	75	195	270	M. T. W. Th. F., 2-5	7

Third Year—Second Semester.

Bacteriology 3	2	8	36	144	180	A. Lab. M. T. Th., 10-12 W., 11-1 B. Lab. T. W. Th. F., 8-10 Lect. M., 8, F., 11	
Neurology 15	2	4	36	72	108	A. Lab. W. F., 8-10 B.Lab. M., 10-12 W.,11-1 Lect. M., 9, F., 10	3
Embryology 6	2	4	36	72	108	A. Lab. T. Th., 8-10 B. Lab. T. Th. 10-12 Lect. T. Th., 2	3
Anatomy 14	3	6	54	108	162	M. W., 2-5, F., 3-6	
Physiology 2	1	3	18	54	72	A. Lab. T., 3; B. Th., 3 Lecture, W. 2.	
Pharmacology-40		3			54	A. Lab. T., 3; B. Th., 3	1

Fourth Year—First Semester.

COURSE	Hours a Week		Hours a Semester			PERIODS	CR.
	Lect.	Lab.	Lect.	Lab.	Tosaf		
Pathology 21	3	9	54	162	216	A. Lab. M. W. F., 2 B. Lab. T. Th. F., 2 Lect. M. W. F., 8	5
Physiology 3	5	6	90	108	198	A. Lab. T. Th., 2 B. Lab. M. W., 2 Lect. M. T. W. Th., 9 F., 11	8
Pharmacology-42	2		36		36	Lect. & Rec. T. Th., 8	2
Hygiene 5	2		36		36	M. 11; W., 12	2
Physical Diagnosis 31	3	2	54	36	90	Lect. M. Th., 10 W., 11 Lab. (Clinic) T., 10-12	3

Fourth Year—Second Semester.

Pathology 22	1	5	18	90	108	Lect. T., 10 A. Lab. M., 2, F., 10 B. Lab. M., 8, W., 2	4
Pharmacology-41		6		108	108	A. Lab. W., 2 A. & B. Th., 9-12 B. Lab. M. 2	
Pharmacology-43	24	16	72	108	180	Lect. M., 10 T. W.Th., 8	6
Minor Surgery-51	3		54			T. W. F., 9	3
Physiology 7	1		18		18	T., 10	1
Applied Antomy 17		6		108	108	T. Th., 2	1
Operative Surgery 52		3		54	54	Sat., 9.	1
Physiology 12	1		18		18	F., 8	1

Fifth and Sixth Years.

To be taken at an approved school or college of medicine.

NOTE:—Medical students must take their work in sequence as shown in the schedule. If they fail in a course they may go on in the following year but the course must be taken again at the first opportunity.

COURSES OF INSTRUCTION.

ANATOMY.

Professor S. J. MORRIS, Associate Professor DODDS and Mr. MORROW.

13. Dissection. (7 Hrs.) Required of all first-year medical students. A careful dissection of muscles, nerves, blood vessels, and different organs of the body *in situ*. A study of osteology and articulations is carried on in connection with the dissection of the cadaver. The cadaver is divided into three parts for the purpose of dissection: the head, including the thoracic viscera; the arm; the leg, including the abdominal and pelvic viscera. The work in gross anatomy is largely practical and is given almost entirely in the dissection room. Practical quizzes upon parts dissected are held at short intervals. Lectures and recitations 70 hours; laboratory 200 hours.

First semester; 2:00-5:00; Professor MORRIS and Mr. MORROW.

14. Dissection. (3 Hrs.) Required of all first-year medical students. Continuation of course 1. Lectures 60 hours; laboratory 128 hours.

Second semester; M. F., 2:00-6:00; W. 3:00-6:00, Professor MORRIS and Mr. MORROW.

15. Neurology. (3 Hrs.) Required of all first-year medical students. A gross and microscopic study of the central nervous system. Lectures 36 hours; laboratory 72. Prerequisite: Histology.

Second semester; Lectures, M. 9:00, F. 10:00; laboratory, Sec. A, W. F., 8:00-10:00; Sec. B, M. 10:00-12:00, W. 11:00-1:00. Professor MORRIS and Mr. MORROW.

12. Histology. (5 Hrs.) Required of first-year medical students. Microscopic study of the tissues and organs of the body. Lectures 36 hours; laboratory 144 hours.

First semester; Lectures W. 8:00 and 11:00. Laboratory, Sec. A, T. F., 8:00-12:00; Sec. B, M. Th. 8:00-12:00, Associate Professor DODDS and Mr. MORROW.

6. Embryology. (3 Hrs.) Required of first-year medical students. The development of the human body is taught by means of study of chick, pig and other embryos and by study of a collection of human embryos and models. Prerequisite: histology. Lectures 36 hours; laboratory 72 hours.

Second semester; Lectures T. Th. 2:00, laboratory, Sec. A, T. Th. 8:00-10:00; Sec. B, T. Th. 10:00-12:00. Assocate Professor DODDS and Mr. MORROW.

17. Applied Anatomy. (2 Hrs.) Required of second-year medical students. Topographical and applied anatomy of the entire body, including the cavities and viscera. Lectures, quizzes, and demonstrations by use of models, special dissections and cross sections. Lectures 36 hours; laboratory 72 hours. Prerequisite: Anatomy 1 and 2.

Second semester; T. Th. 2:00-5:00. Professor MORRIS.

18. Advanced Histology. (2 Hrs.) Open to advanced and graduate students. Intensive study of some system of organs and application of special methods. Laboratory work and study of current literature on the subject.

Hours to be arranged; Associate Professor DODDS.

19. Advanced Embryology. (2 Hrs.) Open to advanced and graduate students. Special study of some phase of development, the subject to be chosen with special reference to the interests of the student.

Hours to be arranged; Associate Professsor DODDS.

9. Advanced Anatomy. Open to advanced graduate students. Consists of aditional dissection on parts considered to be needed by the student.

Credit and hours to be arranged; Professor MORRIS.

10. Anatomy of the Eye, Ear, and Nose. (2 Hrs.) Open to advanced and graduate students. An intensive study of the eye, ear, and nose with special reference to the practical side.

Hours to be arranged, Professor MORRIS.

Bacteriology and Pathology.

Professor ARKIN, Associate Professor MURRAY and Mr. MOLER.

The following courses are required of all medical students: Bacteriology 3, 5 hrs.; Bacteriology 5 (Hygiene and Sanitation), 2 hrs.; Pathology 21, 6 hrs.; Pathology 22, 3 hrs.

1. General Bacteriology. (3 Hrs.) A course in preparation of culture media, and study of bacteria with special reference to disease transmission and prevention. Elective.

First semester; Lecture T. Th., 8:00-9:00. Laboratory, T. Th., 2:00-4:00. Associate Professor MURRAY.

3. **Medical Bacteriology.** (5 Hrs.) Required of first-year medical students. Preparation of culture media, and study of pathogenic bacteria and their relation to disease; their hygienic as well as pathologic relations. Bacteriologic examination of air, water, milk, foods, sputum, blood, etc. Isolation of bacteria from unknowns.

Second semester; lectures, (36 hrs.) M. 8:00; T. 11:00; laboratory, (144 hrs.) M. T. W. Th. F., 8:00 to 10:00 or 10:00 to 12:00; Associate Professor MURRAY and Mr. MOLER.

4. **Advanced Bacteriology.** (3 Hrs.) Open to fourth year and graduate students. Advanced bacteriologic technique; methods employed in the conduct of modern research problems in bacteriology; special culture media, anaerobic cultivation, staining methods, etc.

Hours to be arranged; Professor ARKIN and Assocate Professor MURRAY.

11. **Laboratory Diagnosis.** (2 Hrs.) A laboratory course in blood, gastric contents, etc., and their pathologic and clinical significance. Prerequisite: Bacteriology 3 and Physiological Chemistry 10.

Hours to be arranged.

21. **General Pathology.** (6 Hrs.) Required of second year medical students. Open to graduate students. The technique of tissue preparation, staining and mounting; disturbances of circulation and nutrition; inflammations; degenerations; infiltrations; necrosis; infectious granulomas and tumors; lectures, demonstrations, and laboratory work. Prerequisites: physiological chemistry, histology, physiology, anatomy, and bacteriology.

First semester; lectures (54 hrs.) M. W. F., 8:00; laboratory (162 hrs.), M. W. F., 2:00-5:00 or T. Th. 2:00-5:00 and Sat. 8:00-11:00; Professor ARKIN and Mr. MOLER.

22. **Pathology of Infectious Granulomas and Tumors.** (3 Hrs.) Required of second year medical students. Open to graduate students. Continuation of Pathology 21. Tuberculosis, syphilis, actinomycosis, blastomycosis, etc., and the benign and malignant tumors. A study of the pathology of special organs is made. Lectures, recitations, and laboratory work. Prerequisite: Pathology 21.

Second semester; lectures (18 hrs.) T. 10:00; laboratory (90 hrs.) M. 2:00-5:00 and F. 10:00-12:00 or W. 2:00-5:00 and M. 8:00-10:00; Professor ARKIN and Mr. MOLER.

5. **Hygiene.** (2 Hrs.) The principles of hygiene and sanitation as they pertain to the welfare of the individual; the care of the public health; prevention of communicable diseases; heredity; eugenics; immunity; food, aid and water as sources of disease; personal hygiene; school hygiene; occupational diseases; vital statistics.

First semester; lectures (36 hrs.) M. 11:00, W. 12:00; Associate Professor MURRAY.

6. **Research in Bacteriology.** (Credit according to work done.) Open to limited number of graduate students in medicine.

7. **State and Municipal Laboratory Methods.** (2 Hrs.) Open to fourth year and graduate students. The diagnosis of typhoid, diphtheria, tuberculosis, syphillis, gonorrhea, rabies, etc. and bacteriologic examination of water, milk, food, etc. Prerequisite: Bacteriology 3 or its equivalent.

Hours to be arranged; Associate Professor MURRAY.

8. **Immunity.** (2 Hrs.) Open to fourth year and graduate students. A study of immunity with laboratory work on animals, cytolysis, agglutination; toxins; precipitins; phagocytosis; anaphylaxis; complement fixation; and their application to diagnosis and treatment. Prerequisite: Bacteriology 3 and Pathology 21.

Hours to be arranged; Professor ARKIN and Associate Professor MURRAY.

23. **Advanced Pathology.** (3 Hrs.) This course is open to a limited number of students who have credit for Pathology 21. Special technique, autopsy work, pathological physiology.

Both semesters; hours to be arranged; Professor ARKIN.

24. **Research in Pathology.** (Credit according to work done). Open only to graduate students. Professor ARKIN.

25. **Seminar in Pathology and Bacteriology.** (1 Hr.) Review of current literature. For advanced students.

Both semesters; S. 10:00; Professor ARKIN.

PHARMACOLOGY.

Professor BONAR, Associate Professor HOFRICHTER and Mr. BEERS.

40. Chemical Pharmacology. (1 Hr.) The course includes elementary pharmacy, general toxology, drug reactions, incompatibilities, flavors and colors, the chemical basis of pharmacology and the principles of prescription writing. Three hours per week throughout the second semester in first year medicine. (54 Hrs.)

Second semester; Two sections. T and Th., 3:00; Mr. BEERS.

41. Pharmacodynamics. (2 Hrs.) Experiments and demonstrations on cold-blooded and warm-blooded animals illustrating the action of drugs and the methods of pharmacologic experimentation. The first half of the course is devoted to experiments on amphibia and intact mammals; the second half consists principally of demonstrations on mammals and observations of action of selected drugs on man. Six hours per week throughout second semester in second year medicine. (108 Hrs.)

Second semester; M. and W., 2:00; two sections, Th., 9:00-12:00. Conferences and demonstrations. Professor BONAR, Associate Professor HOFRICHTER and Mr. BEERS.

42. Systematic Pharmacology. (2 Hrs.) Systematic lectures and quizzes treating of the experimental, toxic, and therapeutic actions and uses of the more important drugs; assigned problems; practical drug identification and drill in prescription writing. Two hours per week throughout the first semester of second year medicine. (36 Hrs.)

First semester; T. and Th., 8:00; Professor BONAR.

43. Systematic Pharmacology. Continuation of course 42. Four hours per week throughout the second semester of second year medicine. (72 Hrs.)

Second semester; M., 10:00; T. W. F., 8:00; Professor BONAR and Associate Professor HOFRICHTER.

44. Bio-Assay. (Credit according to work done). Open to properly qualified students. Special Pharmacodynamics.

Hours to be arranged; Professor BONAR and Mr. BEERS.

48. Pharmacology Research. Problems open to specially interested students with proper qualifications.

Hours to be arranged; Professor BONAR.

PHYSIOLOGY AND PHYSIOLOGICAL CHEMISTRY.

Professor MORSE, Associate Professors THOMAS and HOFRICHTER and Dr. VAN DER HEYDE.

2. Physiology. (2 Hrs.) Required of all first year students. Physiology of the tissues, muscle, nerve, gland cells, blood, and lymph. Lectures and demonstrations one hour each week throughout the second semester. Prerequisites: physiological chemistry and Anatomy 1 and 2.

Second semester; Lectures, W. 2:00; laboratory work, T. 3:00-6:00., and W. 2:00-3:00; Associate Professors HOFRICHTER and THOMAS.

3. Physiology. (8 Hrs.) Required of all second year students. Physiology and respiration, circulation, physical factors of digestion, secretion and excretion, the central nervous system, and the special senses. Lectures and demonstrations five hours each week throughout the first semester. Prerequisites: Physiology 1, Anatomy 14 and 15.

First semester; Lectures, M. T. W. Th. F., 9:00 to 10:00; laboratory; section A. M. W.; 2:00-5:00; section B, T. Th., 2:00-5:00; Associate Professors THOMAS and HOFRICHTER and assistants.

7. Physiology. (1 Hr.) Physiology of the autonomic nerves. internal secretions and reproduction. Lectures and demonstrations one hour each week throughout the second semester. Required of all second year students. Prerequisites: Physiology 2. Reports on assigned topics from literature are required of all students as a part of the work of this course.

Second semester; 10:00-11:00; Professor THOMAS.

12. Physiology. (1 Hr.) Physiology of nutrition, metabolism and animal heat. Lectures one hour each week. Required of all second year students. Prerequisite: Physiology 2.

Second semester; Th., 8:00-9:00. Professor MORSE.

13. Advanced Experimental Physiology. (5 Hrs.) A course in physiological research open to advanced students who have completed the other work in physiology or its equivalent and who are otherwise qualified to do the work. Work consists of investigation, under the direction of members of the department, of assigned or original problems. Original problems must meet the approval of the department. 10 hours laboratory and 2 hours conference.

Hours to be arranged; Associate Professor THOMAS.

10. Physiological Chemistry. (5 Hrs.) This course is divided into two portions, namely, ten weeks devoted to physical and descriptive chemistry and the remainder of the time devoted to the special

chemistry of the tissues and of metabolism, including urinary analysis. This course is supplemented in the second semester by the laboratory work in Physiology 3. Required of all medical students. Prerequisites: Organic chemistry and quantitative analysis. Ten laboratory and three lecture hours each week.

First semester; section A, laboratory, M. Th., 8:00-12:00, S. 8:00-10:00; section B, laboratory, T. F., 8:00-12:00, S. 11:00-1:00; Lectures both sections W., 11:00-1:00; S., 10:00-11:00; Professor MORSE and Dr VAN DER HEYDE.

11. **Advanced Physiological Chemistry.** (5 Hrs.) Elective for those who have completed course 10. A thesis, which must be accepted for publication by a journal of biochemical research, may be completed for this course. Ten laboratory and two hours conference per week.

Hours to be arranged.

14. **Seminar in Physiology and Physiological Chemistry.** (1 Hr.) Meetings will be held during the winter months at fortnightly intervals, in which special topics will be considered. Topics for 1921-22: Origin of the heart-beat.

Hours to be arranged.

PHYSICAL DIAGNOSIS.

Dean SIMPSON and Dr. BRAY.

31. **Physical Diagnosis.** (4 Hrs.) Required of second year medical students. An introductory course in the study of the taking of medical histories, inspection, palpitation, percussion, and auscultation of patients in health and disease.

First semester; laboratory, M., T., Th., 10:00; W. 11:00; T., 10:00-12:00.

MINOR SURGERY.

Dr. HARDY and Professor MORRIS.

51. **Minor Surgery and Operative Technique.** (3 Hrs.) Required of second year medical students. Open to graduate students. Instruction by demonstrations and practice in the various manipulations of minor surgery, including the application of splints and bandages. Lectures and practcal work in the principles of asepsis, anti-sepsis, and sterilization; preparation of patient and operator; dressings and care of wounds. Practical instruction of individual students in the induction of general and local anesthesia.

Second semester; T. W. F., 9:00; Dr. HARDY, City Hospital.

52. **Operative Surgery.** A course of practical instruction in operative surgery utilizing the lower animals as subjects. Asepsis will be maintained throughout the work. A special room is assigned to this work in the animal house.

Second semester; Saturdays; 9-12:00; Professor MORRIS.

THE DEPARTMENT OF PHARMACY

THE SCHOOL OF MEDICINE

THE FACULTY.

FRANK BUTLER TROTTER, A.M., LL.D., *President.*

JOHN NATHAN SIMPSON, M.D., *Dean of The School of Medicine*

GORDON ALGER BERGY, PH.C., M.S., *Associate Professor of Pharmacy.*

J. LESTER HAYMAN, PH.C. B.S., *Instructor in Pharmacy*

CHESTER G. FUSS, PH.C B.S., *Instructor in Pharmacy*

FRIEND EBENEZER CLARK, B.S. PH.D., *Professor of Chemistry*

HARLAN HARVEY YORK, PH.D., *Professor of Botany*

AARON ARKIN, PH.D., M.D., *Professor of Pathology and Bacteriology*

MARTIN LOXLEY BONAR, M.D., *Professor of Pharmacology*

WITHROW MORSE, PH.D., *Professor of Physiology and Physiological Chemistry*

ESTABLISHMENT OF THE DEPARTMENT

In response to the request of the West Virginia State Pharmaceutical Association the Board of Regents in 1914 made provision for instruction in pharmacy. A department of pharmacy was established in the School of Medicine and a two year course in pharmacy leading to the professional degree of Graduate in Pharmacy (Ph.G.) was offered.

In 1917 additional courses of three and four years, leading to the degrees of Pharmaceutical Chemist (Ph.C.) and Bachelor of Science in Pharmacy (B.S. Pharmacy) were established. The degree of Graduate in Pharmacy given for two years of pharmaceutical work is recognized by such State Boards of Pharmacy as require a course in pharmacy preliminary to examination for registration.

The West Virginia State Board of Pharmacy does not require a college course of applicants who present themselves for examination, but it strongly recommends such a course to all persons intending to become candidates for registration as pharmacists.

State Pharmacy Law.

Extract from law of the State of West Virginia governing the practice of pharmacy: SEC. 11. In order to be hereafter licensed as a pharmacist within the meaning of this act an applicant shall be not less than twenty-one years of age, and shall present to the board of pharmacy satisfactory evidence that he has had four years' experience in pharmacy under the instruction of a licensed pharmacist, and he shall pass a satisfactory examination by or under the direction of the board of pharmacy; in order to be licensed as an assistant pharmacist, within the meaning of this act, an applicant shall be not less than eighteen years of age, shall have a sufficient preliminary general education, and shall have not less than two years' experience in pharmacy under the instruction of a licensed pharmacist and shall pass a satisfactory examination by or under the direction of the board of pharmacy; provided, however, that in the case of a person who has attended a reputable school or college of pharmacy, the actual time of attending such school or college of pharmacy may be deducted from the time of experience required of pharmacists, but in no case shall less than two years' experience be required for graduation as a licensed pharmacist.

LABORATORIES AND EQUIPMENT.

The Department of Pharmacy has spacious quarters in Woodburn Hall. The equipment for all of the courses offered in the department is complete and of the latest design.

PHARMACEUTICAL LABORATORIES.

The pharmaceutical laboratories are fully equipped for the manufacture of pharmaceutical preparations and for the performance of pharmaceutical, alkaloidal, and toxicological analysis. There are two well lighted laboratories approximately thirty feet square. All drugs and chemicals required in the manufacture of pharmaceutical preparations are preserved in glass containers, labelled according to the nomenclature of the Pharmacopoeia and National Formulary, and conveniently located on shelves accessible to all students in the laboratory. One laboratory is especially fitted for instruction in manufacturing pharmacy. It is equipped with a force-feed ointment mill, for the preparation of heavy ointments, paints, tooth pastes, and other similar preparations; a pill mass mixer, kneading machine, piping and troche machine, tablet triturate, and hypodermic tablet plates, a power-operated compressed tablet machine with full set of dies, pill and tablet coating machines for gelatine and sugar coating, polishing machines, pressure suppository machine and fusion molds of all types, a Hance power drug mill, and a laboratory drug mill.

A prescription laboratory is operated in conjunction with the Dispensary of the University Health Service. Each student is supplied with a full set of pharmaceutical apparatus and glassware necessary for the compounding of prescriptions. Torsion balances, encased in glass are a part of this regular equipment.

THE MUSEUM OF PHARMACOGNOSY.

The pharmacognosy collection consists of approximately three hundred and fifty medicinal plants secured from all parts of the world for instruction in materia medica. For instructional purposes several large collections have been arranged. These are (a) a large display collection, (b) a labeled collection for student study, (c) an unlabeled collection for identification, and (d) a collection of powdered drugs for the purpose of histological study. The museum is provided with floor cases, tables, charts, maps, photographs and compound microscopes.

LABORATORY OF MEDICAL BACTERIOLOGY.

The bacteriological laboratory is equipped with all necessary apparatus, such as sterilizers, incubators, glassware, etc. Each student has the use of a microscope with oil immersion lens. Special apparatus for bacteriological examination of air, water, milk, and blood is supplied to each student. Material for laboratory work in bacteriological diagnosis, such as Widal tests for typhoid, examination of sputum for tubercule bacilli, bacteriological examination of water, etc. is available.

PHARMACOLOGICAL LABORATORY.

The pharmacological laboratory is equipped with chemical desks, operating tables, and electrical kymograph and respiration apparatus for taking continuous records of respiration and blood pressure. Special animal cages are provided to meet the needs of courses 41 and 47 inclusive. In addition, a special animal house for the proper care of experimental material is provided. Aside from the general equipment of the laboratory, each group of two students is provided with individual sets of apparatus and reagents. The laboratory is also provided with a collection of crude drugs, alkaloids, glucosides, and analytical chemicals.

The chemical, botanical and zoological laboratories of the University are also open to students in the School of Medicine.

PHYSIOLOGY LABORATORIES.

The laboratories devoted to physiology on the first floor of the medical building are supplied with tables each accommodating two students. Each table is equipped with a complete set of general physiological apparatus which is lent to the students with a charge for breakage. Special apparatus is supplied from the storeroom to individual groups as needed. Sufficient equipment is provided to enable the students to perform all the experiments listed in standard laboratory manuals and for the demonstration by instructors of experiments which cannot be conveniently performed by the student.

Private rooms and equipment for research are provided for members of the department.

PHYSIOLOGICAL CHEMISTRY LABORATORIES.

The physiological chemistry laboratories are situated upon the second floor of the medical building and consist of a students' laboratory, containing the usual equipment of desks, hood, etc., the departmental office with reference library and a research laboratory beyond this. An individual research room is provided for the assistant in the department. A dark-room is available for work requiring its use, as in polariscope work, etc.

OTHER LABORATORIES.

The laboratories of the departments of botany, chemistry, and physics in the College of Arts and Sciences are also open to students in the department of pharmacy. A detailed description of these laboratories is given on pages 23-25 of the General Announcements of the University.

LIBRARY AND READING ROOM.

The medical library consists of over 3200 bound volumes and many unbound journals and reprints. There is a good collection of works on chemistry, anatomy, physiology, pharmacy, zoology, botany, pathology, bacteriology, pharmacology, medicine, and surgery. There are bound volumes of the leading scientific journals as well as some of the leading German, French and American, Journals devoted to the laboratory side of medicine. The general library is in close proximity to the medical laboratories and is open all day and till ten o'clock at night.

DISPENSARY AND MEDICAL SERVICE.

All students in the University pay a medical fee of $2.50 each per semester, in return for which they receive free drug service from the department of pharmacy, and free medical attention, including minor surgery (specialties excepted) from the faculty of the School of Medicine.

A clinic for out patients is conducted by the physicians of the medical faculty. This service is rendered free to the poor of the immediate vicinity. The prescriptions are compounded at the dispensary of the Student Health Service by advanced students of the department of pharmacy under the supervision of a registered pharmacist.

PHARMACEUTICAL ASSOCIATIONS.

The West Virginia Branch of the American Pharmaceutical Association.

The headquarters of the West Virginia Branch of the American Pharmaceutical Association are at Morgantown. This branch of the national organization is composed of the representative pharmacists of West Virginia. Students of pharmacy are eligible to membership in the branch and are privileged to attend the lectures and meetings without becoming members. Address communications to A. B. Berry, Secretary, Morgantown, W. Va.

The West Virginia State Pharmaceutical Association.

Students of pharmacy are eligible to membership in this organization, which has for its object the improvement of the science and art of pharmacy, the inculcation of the professional spirit and the restriction of the practice of pharmacy to persons properly qualified by education and experience to exercise their art with safety to the public. Address communications to Patrick G. Kelly, Montgomery, W. Va.

American Conference of Pharmaceutical Faculties.

The Department of Pharmacy holds membership in the American Conference of Pharmaceutical Faculties. The object of the Conference is to promote the interests of the pharmaceutical education and all institutions holding membership in the same must maintain certain minimum requirements for entrance and graduation. Thru the influence of this conference higher standards of education have been adopted from time to time and the fact that several states by law or by Board ruling recognize the standards of the Conference is evidence of this influence.

Pharmacists' Register.

A pharmacists' register for the benefit both of the employer and employee has been established by the Department of Pharmacy. No charge is made for services rendered.

TUITION AND FEES.

All students in the courses in pharmacy who are residents of West Virginia must pay a tuition fee of $25.00 a semester. Non-resident students must pay $100.00 a semester. In addition to the tuition fee each student must pay each semester: Contingent fee, $12.50; Student activity fee, $5.00; Medical fee, $2.50. A diploma fee of $10.00 is payable by each student at the beginning of the semester in which he expects to graduate.

ADMISSION TO THE COURSE IN PHARMACY.

SECONDARY SCHOOL CREDITS.

For admission to the course in pharmacy the student must have credit for fifteen units of secondary school work, i. e., the work of a standard four-year high school.[1]

A. The following groups are required:
   (1) Four units of English.
   (2) Three units in one other subject.
   (3) Two units in a third subject.
   (4) Two units in a fourth subject.
   (5) Four units elective.

B. In addition to the four units of English the work indicated in (A) must include: two units of Latin, one unit of history, one unit of algebra, and one unit of plane geometry.

C. Work in the following subjects not to exceed the number of units placed after each subject will be accepted:

English	4 units	Science[3]	
		Physics	1 unit
Foreign languages[2]		Chemistry	1 unit
Latin	4 units	Biology	1 unit
Greek	3 units	Botany	1 unit
French	3 units	Geology	1 unit
German	3 units	Zoology	1 unit
Spanish	2 units	General science	1 unit
Italian	2 units	Physical geography	½ unit
		Physiology	½ unit
Mathematics		Hygiene and sanitation	½ unit
Algebra	1½ units		
Plane geometry	1 unit	Vocational subjects (not to exceed four units in all.)	
Solid geometry	½ unit	Agriculture	3 units
Trigonometry	½ unit	Household arts	3 units
		Manual training	3 units
History and economics		Bookkeeping or bookkeeping and commercial arithmetic	2 units
History	3 units	Shorthand and typewriting	2 units
Civics	1 unit	Commercial geography	½ unit
Elementary economics and sociology	1 unit	Commercial law	½ unit
Education	2 units	Music:—violin, organ or piano[4]	2 units
Drawing			
Free-hand drawing	1 unit		
Mechanical drawing	1 unit		

[1] These admission requirements are effective from May 1, 1919, but graduates from high schools in 1919, 1920, or 1921, may, if they prefer, enter with the requirements as stated in the University catalogue for 1918-19.

[2] Not less than two units of one foreign language will be accepted for entrance.

[3] A group of two units in science may be made by combining one unit each of physics and chemistry or one unit each of any of the following: biology, botany, zoology, geology. A group of three units in science may be made by combining one unit each of any of the following: physics, chemistry, biology, botany, zoology, geology.

For conditions governing entrance credit in music see page 59 of the University catalogue.

COURSES IN PHARMACY

TWO YEAR COURSE.

The two-year course provides the foundation work in pharmacy and pharmacognosy, together with those essentials of analytical chemistry necessary in the drug business.

All the subjects gathered in this course are compulsory, there being no electives. The laboratory method of instruction is emphasized. The number of actual hours spent in this course is 2132, of which 1376 are spent in the laboratory and the remaining 756 hours in lectures and quiz.

CURRICULUM FOR TWO-YEAR COURSE.

Professional Degree of Ph. G. (Graduate in Pharmacy.)

	First Year—First Semester.		
Pharmacy 1	8:00 T. Th.	2	
Pharmacy 2	10:00 M. F. 8:00 W.	3	
Pharmacy 3	2:00–5:00 T. Th.	2	
Physiology 20	9:00 M. T. Th. F., 2:00-5:00 W.	4	
Chemistry 1	11:00 M. W., 2:00-4:00 M. F.	4	
Botany 1	8:00 M. F., 9:00-12:00 T. Th.	4	19
	First Year—Second Semester.		
Pharmacy 4	10:00 M. F., 8:00 W.	3	
Pharmacy 5	2:00 5:00 T. W., 9:00-12:00 S.	3	
Pharmacy 13	8:00 T. Th. 2:00-5:00 Th.	3	
Botany 2	9:00 M. W., 9:00-12:00 T. Th.	4	
Chemistry 2	11:00 M. W. 2:00-4:00 M. F.	4	17
	Second Year—First Semester.		
Pharmacy 6	2:00 M. W. F.	3	
Pharmacy 7	2:00–5:00 T. Th.	3	
Pharmacy 14	8:00 M. T. W. Th. F.	5	
Pharmacy 15,	3:00–5:00 M. W. F.	2	
Chemistry 18	9:00–12:00 M. T. W. Th. F.	5	18
	Second Year—Second Semester.		
Pharmacy 8	9:00 M. W. F.	3	
Pharmacy 10	11:00 M. F.	2	
Pharmacy 11	2:00–5:00 M.	1	
Pharmacology 52	8:00 T. Th. S.	3	
Pharmacology 55	9:00–12:00 T. Th.	2	
Chemistry 9	10:00 M. F., 11:00 W., 2:00-5:00 T. W. Th.	5	
Pharmacy 12	8:00 W. F.	2	18

Note.—Pharmacy students should elect their work in sequence as shown in the schedule. If they fail in one or more courses during a semester, they may continue the work during the following semester, but the course or courses in which they have failed must be retaken at the first opportunity. Students will not be allowed to elect an advanced course until all prerequisite requirements have been satisfied.

THREE-YEAR COURSE.

For the completion of the three-year course the degree of Pharmaceutical Chemist (Ph. C.) is awarded. The course is designed particularly for those who desire to enter the commercial field of pharmaceutical chemistry and food and drug chemistry, or for those pharmacists who wish to strengthen their professional relations by the practice of urinary, bacteriological and toxicological analysis for the physician. Students are advised to select one phase of the advanced work and pursue it to completion as outlined, as there would not be sufficient time in three years to permit the successful accomplishment of both.

CURRICULUM FOR THREE-YEAR COURSE.

Professional Degree of Pharmaceutical Chemist. (Ph. C.)

First Year.

First Semester.	Hours	Credit.	Second Semester.	Hours	Credit.
Pharmacy 1		2	Pharmacy 4		3
Pharmacy 2		3	Pharmacy 5		3
Pharmacy 3		2	Pharmacy 13		3
Physiology 20		4	Botany 2		4
Botany 1		4	Chemistry 2		4
Chemistry 1		4			17
		19			

Second Year.

Pharmacy 6		3	Pharmacy 8		3
Pharmacy 7		2	Pharmacy 10		2
Pharmacy 14		2	Pharmacy 11		1
Pharmacy 15		5	Pharmacology 52		3
Chemistry 18		5	Pharmacodynamics	55	55
		17	Chemistry 9		5
			Pharmacy 12		2
					18

Third Year.

English 1		3	English 2		3
English 26		2	English 27		2
Pharmacy 9		3	Bacteriology 3		4
French or German		5	French or German		5
Chemistry 10		3	Hygiene and sanitation	5	2
		16	Pharmacy 16		3
					19

Chemistry 38 may be substituted for Bacteriology 3.

FOUR-YEAR COURSE.

The four-year course is a combined academic and professional course including one hundred and twenty-eight semester hours of work as shown in the following curriculum.

Professional degree of Bachelor of Science in Pharmacy. (B.Sc. Phar.)

First Year.

First Semester.	Hours Credit.	Seecond Semester.	Hours Credit.
English 1	3	English 27	2
English 26	2	English 2	3
Botany 1	4	Botany 2	4
Mathematics 3	3	Mathematics 4	2
Chemistry 1	4 16	Pharmacy 10	3
		Chemistry 2	4 17

Second Year.

Pharmacy 14	2	Hygiene and sanitation 5	2
Pharmacy 1	2	Pharmacy 4	3
Pharmacy 2	3	Pharmacy 5	3
Pharmacy 3	2	Pharmacy 13	3
Chemistry 18	5	Chemistry 9	5 16
Elective	3 17		

Third Year.

Pharmacy 6	3	Pharmacy 11	1
Pharmacy 7	2	Pharmacology 52	3
Pharmacy 15	5	Pharmacodynamics 55	2
Physiology 20	4	Bacteriology 3	4
Pharmacy 9	3 17	Elective	6
		Pharmacy 12	2 18

Fourth Year.

Physics 1	3	Physics 3	3
Physics 2	1	Physics 4	1
Mineralogy 6	5	Pharmacy 8	3
Chemistry 19	3	French or German	5
French or German	5 17	Chemistry 22	3
		Pharmacy 16	3 18

COURSES IN DEPARTMENT OF PHARMACY.

PHARMACY.

Associate Professor BERGY, Mr. HAYMAN, and Mr. FUSS.

1. **Theoretical Pharmacy.** (2 Hrs.) Descriptive and experimental lectures and recitations, embracing a study of the apparatus and technique necessary for the correct procedure in the manufacture of pharmaceutical preparations. (36 hours).

First semester; T. Th., 9:00; Mr. FUSS.

2. **Pharmaceutical Arithmetic and Stoichiometry.** (3 Hrs.) Lectures and recitations. (50 hours).

First semester; M. W. F., 9:00; Mr. FUSS.

3. **Physics of Pharmacy.** (3 Hrs.) A laboratory course designed to accompany courses 1 and 2 in pharmacy. Quizzes and laboratory (100 hours).

First semester; M. F., 2:00-5:00; Mr. FUSS.

4. **Operative Pharmacy Lectures.** (3 Hrs.) A systematic consideration of the various official preparations for which the Pharmacopoeia and National Formulary gives formulas and processes. Lectures and recitations. Prerequisite: Pharmacy 1, 2, and 3. (50 hours.)

Second semester; M. F., 10:00; W. 8:00; Associate Professor BERGY.

5. **Operative Pharmacy Laboratory.** (4 Hrs.) This course is carried on in conjunction with Pharmacy 4. The representative classes of preparations of the Pharmacopoeia and National Formulary are manufactured. Students are required to pass an examination in the identification of these preparations by their physical characteristics. Laboratory (150 hours). Fee, $10.00.

Second semester; W. Th. F., 2:00-5:00; Associate Professor BERGY and Mr. FUSS.

6. **Manufacturing Pharmacy Lectures.** (3 Hrs.) The more difficult pharmaceuticals and miscellaneous preparations are considered in connection with the modern methods of manufacture. Lectures and recitations. (50 hours). Prerequisite: Pharmacy 4 and 5.

First semester; 2:00, M. W. F., Associate Professor BERGY.

7. **Manufacturing Pharmacy Laboratory.** (3 Hrs.) The individual preparations are usually assigned in the form of a prescription and include those classes generally made extemporaneously. About seventy-five miscellaneous prescriptions are compounded and the existing incompatibilities studied. Every prescription must be labeled and wrapped as in actual practice. Laboratory (100 hours).

Prerequisite: Pharmacy 4 and 5.

First semester; T. Th., 2:00-5:00; Associate Professor BERGY.

8. **Prescriptions and Incompatibilities.** (3 Hrs.) The prescription is studied relative to the nterpretation of the chemical, pharmaceutical, and therapeutical incompatibilties, posology, are of dispensing and Latin nomenclature. Lecture and recitations (50 Hrs.) Prerequisite: Pharmacy 1, 2, 3, 4, 5, 6 and 7.

Second semester; M. W. F., 9:00; Mr. HAYMAN.

9. **Assay and Pharmacopoeial Testing.** (3 Hrs.) A critical study of the identity, purity, limit and percentage tests of the pharmacopoeia as applied to all official organic and inorganic compounds. Lectures (25 Hrs.) Laboratory (50 Hrs.) Prerequisite: Chemistry 5, 6 and 9.

Second semester; M. W., 8:00; T. Th., 2:00-5:00; S., 9:00-12:00; Assistant Professor BERGY.

10. **Commercial Pharmacy.** (2 Hrs.) The establishment, management, and development of a modern pharmacy, with special emphasis on business economics, accounting, correspondence, salesmanship and advertising. Lectures and recitations (35 Hrs.)

Second semester; M. F., 11:00; Mr. FUSS and Mr. HAYMAN.

11. **Prescription Practice.** (1 Hr.) Compounding and interpretation of prescriptions as met with in actual practice. Laboratory work 50 hours. Prerequisite: Pharmacy 4, 5, 6, 7 and 8.

Second semester; M., 2:00-5:00; Professor BERGY, Mr. HAYMAN.

12. **Pharmaceutical Latin.** (2 Hrs.) Emphasis is placed upon pronunciation, declension, English and Latin translation, comparison, abbreviations and vocabularies of medicine and pharmacy.

Second semester; W. F., 8:00 Mr. HAYMAN.

13. **Pharmaceutical Chemistry.** (3 Hrs.) A course dealing specifically with inorganic chemistry as applied to pharmacy. Nonmetals, metals, and their inorganic compounds, equation writing, stochiometry, etc., are discussed. The modern methods of commercial manufacture of inorganic chemicals are considered. The students prepare a large number of inorganic chemicals in the laboratory.

Second semester; T. Th., 8:00; laboratory, Th., 2:00-5:00; Associate Professor BERGY and Mr. FUSS.

14. **Microscopy.** (2 Hrs.) A detailed study of the miscroscope and accessories and their uses in the arts, sciences and industries; microscopical characteristics of starches, powdered vegetable drugs, and their adulterants.

First semester; T. Th., 10:00 to 12:00, S. 9:00, Mr. HAYMAN.

15. Pharmacognosy. (5 Hrs.) Lectures and recitations including official titles and definitions, families, constituents, actions, uses and doses together with practical work in identification. More than 200 useful drug plants. Animal drugs and their materia medica are considered.

First semester; M. T. W. Th. F., 9:00, Mr. HAYMAN.

16. Organic Analysis. (3 Hrs). A lecture and laboratory course which has for its subject matter the chemistry, means of detection, and the qualitative of the alkaloids. Required in the three-year and four-year courses.

First semester; M. W., 2:00-5:00; Mr. HAYMAN.

17. Food and Drug Analysis. (2 to 5 Hrs.) A graded course of lectures and laboratory work with colateral reading. Prerequisites: Chemistry 1, 2, 18, 9.

First semester; M. T. W. Th. F., 2:00-5:00; Professor BERGY and and Mr. HAYMAN.

18. Food and Drug Analysis. (2 to 5 Hrs.) A continuation of Pharmacy 17. Analysis and practice in detecting adulteration in a large and varied number of preparations.

Second semester; M. T. W. Th., 2:00-5:00; Associate Professor BERGY and Mr. HAYMAN.

PHARMACOLOGY.

52. Pharmacology. (3 Hrs.) Required of all second year students in pharmacy. This lecture course aims to give a general survey of the pharmacodynamic action of the more potent drugs which the pharmacist is called upon to dispense.

Second semester; T. Th. S., 8:00; Professor BONAR.

5. Pharmacodynamics. (2 Hrs.) Required of all second year students in pharmacy. This is a laboratory course beginning with simple experiments upon cold blooded animals, followed by more complex experiments with the lower animals. The experiments are so selected as to adapt the training to the needs of modern pharmacy, laying particular emphasis upon toxocology and methods of quantitative physiological tests for drugs.

Second semester; T. Th., 9:00-12:00; Professor BONAR.

CHEMISTRY.

Professor CLARK and Staff.

1. **Inorganic Chemistry.** (4 Hrs.) The course includes a systematic study of the laws of chemical combination; the source, preparation, properties and compounds of the non-metallic elements and the theories and laws of chemical operation. Experimental lectures, recitations and laboratory work.

First semester; M. W., 11:00; laboratory, M. F., 2:00-4:00; Assistant Professor MORRIS and Mr.————.

2. **Inorganic Chemistry.** (4 Hrs.) Continuation of Chemistry 1. This course includes the study of the metallic elements and special attention is paid to the applications of chemistry to agriculture, engineering, medicine, pharmacy and every-day life. Experimental lectures, recitations and laboratory work.

Second semester; M. W. F., 11:00; laboratory, M. F., 2:00-4:00; Assistant Professor MORRIS and Mr.————.

18. **Qualitative and Quantitative Analysis.** (5 Hrs.) A course for students preparing for medicine.

First semester; daily 9:00-12:00; Associate Professor HILL.

5. **Qualitative Analysis.** (4 Hrs.) Continuation of Chemistry 2. This is an extended course treating of those properties which are of importance in the separation and identification of the common metals and acids. In addition to the work in the laboratory there are lectures and recitations in which chemical reactions are studied from the point of view of the mass law and the theory of electrolytic dissociation.

First semester; M. W. F., 2:00-5:00; Professor CLARK.

6. **Quantitative Analysis.** (5 Hrs.) A course treating of the elementary principles of gravimetric and volumetric analysis.

Second semester; M., 2:00; laboratory, T. W. Th. F., 2:00-5:00; Professor CLARK.

9. **Organic Chemistry.** (6 Hrs.) Laboratory fee, $5.00.

Second semester; M. F., 10:00; W., 11:00; 2:00-5:00; T. W. Th. Professor Clark.

Note.—Hours arranged for pharmacy students.

19†. **Industrial Chemistry.** (3 Hrs.) Open to major and graduate students and to students in chemical engineering.

First semester; M. W. F., 9:00; Professor CLARK.

22†. **Industrial Chemistry.** (3 Hrs.) Open to major and graduate students and to students in chemical engineering.

First semester; M. W. F., 9:00; Professor CLARK.

*21. **Physical Chemistry.** (5 Hrs.) Required of major students. For graduate students and chemical engineering students also. Three lectures and two three-hour laboratory periods weekly.

Second semester; 2:00; Dr. STEARN.

15. **Special Work.** Assignments not covered by the courses above outlined. Credit and hours to be arranged with individual students.

NOTE.—A breakage deposit is required of all students taking laboratory courses.

PHYSIOLOGY.

Professor SIMPSON.

1. **Physiology.** (4 Hrs.) A study of the functions of the different organs of the body, illustrated by demonstrations of human organs and those of lower animals, with a microscopic study of the most important tissues of the body. A laboratory period one afternoon each week will be given to the dissection of the cat and to the preparation of histological slides of the different organs.

First semester; M. W. F., 10:00; laboratory, W. 2:00 to 5:00.

17. **First Aid to the Injured.** (1 Hr.) A demonstrative lecture course in bandaging; care of the wounded; antidotes for poisons; etc. Intended to fit the student for all emergency cases.

Second semester; M. F., 10:00; Professor SIMPSON.

PHYSIOLOGICAL CHEMISTRY.

10. Physiological Chemistry. The course is divided into two portions, namely, ten weeks devoted to physical and descriptive chemistry and the remainder of the time devoted to the special chemistry of the tissues and of metabolism, including urinary analysis. This course is supplemented in the second semester by course 4. Required of all medical students. Prerequisites: organic chemistry and quantitative analysis.

Lecture 36 hours. Laboratory 144 hours. Section A, M. F., 8:00-12:00; Section B, T. Th., 8:00-12:00; lectures W. 9:00, W. 12:00; Professor MORSE and Dr. VAN DER HEYDE.

11. Advanced Physiological Chemistry. Elective for those who have completed course 6. A thesis, which must be accepted for publication by a journal of physiological research will be required for credit in this course.

8. Seminar in Physiology and Physiological Chemistry. Meetings will be held during the winter months at fortnightly intervals, in which special topics will be considered. Topic for 1921-22: Origin of the heart beat.

BACTERIOLOGY.

3. Medical Bacteriology. (5 Hrs.) Preparation of culture media and study of pathogenic bacteria and their relation to disease, Bacteriologic examination of air, water, milk, foods, sputum, blood, etc. Isolation of bacteria from unknowns. Lectures, 36 hours, laboratory, 144 hours.

Second semester; lectures, M., 8:00, T., 11:00; laboratory, daily 8:00-10:00 or 10:00-12:00; Associate Professor MURRAY and Mr. MOLER.

5. Hygiene and Sanitation. (2 Hrs.) Not open to freshmen. This course considers the principles of hygiene and sanitation as they pertain to the welfare of the indiivdual and the care of the public health.

First semester; T. Th., 8:00; Professor ARKIN, M. B.

1. Laboratory Diagnosis. (2 Hrs.) A laboratory course in the chemical microscopical and bacteriological examinaation of urine, feces, blood, gastric contents, etc., and their pathologic and clinical significance.

Second semester; hours to be arranged; Professor ARKIN.

BOTANY.

Professor YORK, and Staff.

1. **Botany.** (4 Hrs.) This course includes a general survey of the various plant groups—algea, fungi, mosses, ferns, and seed-plants —with a consideration of their relation to agriculture. Laboratory fee, $3.00.

First esmester; M. F., 8:00; Professor YORK; laboratory sections T. Th., 9:00-120:00; Mr. SPANGLER.

2. **Botany.** (4 Hrs.) Continuation of Botany 3. First half-semester. Morphology, physiology, and economic importance of seed-plants. Some field work is required.

Second half semester; Characteristics and uses of the principal families of seed-plants: practice in identification and classification of the drug plants. A collection is required.

Second semester; M. W., 9:00 Professor YORK; laboratory sections, T. Th., 9:00, 12:00; Mr.SPANGLER.

THE SCHOOL OF MUSIC

STAFF OF INSTRUCTION.

FRANK BUTLER TROTTER, A.M., LL.D., *President of the University*

LOUIS BLACK, *Director and Head of the Vocal Department*

SUSAN MAXWELL MOORE, A.B., *Instructor in Piano*

GRACE MARTIN SNEE, B.M., *Instructor in Piano and Pipe Organ*

MAX DONNER, *Instructor in Violin and Ensemble*

FLORA RAY HAYES, A.B., *Instructor in Theory and History of Music*

ETHEL BORDEN BLACK, *Instructor in Piano.*

AGNES CHADBOURN JOHNSON, A.B., *Instructor in Public School Music. Extension Work*

WALTER R. MESTREZAT, *Instructor in Wind Instruments*

ALMENA JOSEPHINE BUNCE, *Student Assistant in Voice*

MABELLE ELEANOR WHETSELL
MILDRED LOUISE REED } *Assistants in Piano*

BUILDING AND EQUIPMENT.

The school now occupies a separate building at 509 Front Street just adjoining the Campus. The building is equipped with ten upright and six concert grand pianos.

Commencement Hall, seating 1,000 people, contains a magnificent three-manual pipe organ, tubular pneumatic—built upon the universal wind-chest system and having 76 stops and mechanical accessories. A new Moller console and stop action has recently been added. This organ, which receives power from an electric motor, is available for practice.

CONCERTS AND RECITALS.

Faculty concerts are given at least three times a year, the last of the yearly series being the Commencement concert. All the members of the School of Music Faculty participate in these concerts, though occasionally one member may give an individual recital.

STUDENT CONCERTS.

A student's concert is given each week. These concerts vary in grade from elementary to graduate and post-graduate recitals. The object is to afford opportunity for the students to apply in public the proficiency that has been developed in the studio.

ARTISTS' CONCERTS.

During each year several artists of international fame are engaged for recital and concerts; such artists as Rosenthal, Harold Bauer, Tina Lerner, Francis McMillan, Schumann-Heink, Frances Alda, David Bispham and others.

These concerts are made easily accessible to students generally.

THE UNIVERSITY CHOIR.

This organization has been in existence for eleven years under the present director. It is open to all students who can sing a part. Its principal function is to sing in the devotional exercises at Convocation each Wednesday. This gives the members a practical church choir experience

During each year the choir appears in secular concerts and on other occasions.

THE UNIVERSITY PHILHARMONIC ORCHESTRA.

A University orchestra of thirty-five members, composed of students and outside talent, is constituted as follows:

First and second violins, violas, violincellos, contra basses, flutes, oboes, trombones, drums, and all percussion instruments.

An average of four concerts will be given each year in which members of the faculty and advanced students in piano, violin, voice, organ and other departments can appear as soloists.

Rehearsals are held weekly. All advanced students in string and wind instruments are required to play in the orchestra and outside students of ability are also admitted on payment of a nominal fee.

Students in composition may have their works rehearsed and performed if found worthy, and students in conducting also have opportunity for actual practice.

This orchestra will afford the training and routine indispensable to the experienced orchestral player.

GENERAL ANNOUNCEMENTS.

Students may enter the School of Music at any time, but it is greatly to their interest to enter, as far as possible, at the beginning of the semester.

Students entering within the first two weeks of a semester will be charged for a full semester; after that time, for the remainder of the semester and one week additional.

There is no deduction made for lessons missed by students except in case of prolonged illness, when the loss is divided equally between the student and the school.

Students of the School of Music are not allowed to take part in public programs or to join musical organizations without the consent of their respective teachers and the director of the school.

All music students are expected to attend the regular students' recitals, and to take part in them whenever so assigned, and to attend all concerts given under auspices of the University. They are expected to identify themselves with the various organizations of the school, and are required to enter any of which they are assigned by the director.

It is expected that all students will take sufficient work—literary or musical or both—to occupy their entire time.

CREDIT FOR MUSIC ON COLLEGE COURSES

Credit towards the degree of Bachelor of Arts will be given for courses in the theory and the history of music, not to exceed fifteen semester hours.

COURSES OF STUDY.

The School of Music offers instruction in the following subjects: voice, piano, violin, organ, accompanying, chamber music, orchestra, band music, sight-reading, public school music, appreciation, harmony, counterpoint, canon and fugue, and history of music. In voice, piano, organ, and violin two courses are offered, one leading to a teachers' certificate, and one leading to an artist's diploma.

REQUIREMENTS FOR ADMISSION.

No student can be classified in the collegiate course in music without passing an examination in solfeggio, or demonstrating to the satisfaction of the head of the department the ability to read music of moderate difficulty, and giving evidence of the mastery of the elements of music.

In the preparatory course, to which children only are admitted no previous knowledge of music is reuiredq.

REQUIREMENTS FOR GRADUATION.

GENERAL REQUIREMENTS.

Candidates for a teacher's certificate in any of the four courses mentioned above must present a high school diploma or equivalent credits. They must also complete courses 1, 2, 3 and 4 in theory of music, and courses 5 and 6 in history of music or courses 7 and 8 in the appreciation of music, and show satisfactory proficiency in ensemble work.

Candidates for an artist's diploma must meet all the requirements imposed for the teacher's certificate and appear satisfactorily in a graduating recital.

VOICE.

Candidates for the teacher's certificate in voice, in addition to the above general requirements, must satisfactorily complete the three-year course in voice as outlined below, and must possess the ability to perform acceptably selections from the standard oratorios and operas. They must also complete one year of work in each of the modern languages—French, German and Italian, and two years of piano.

Candidates for the artist's diploma in voice must satisfy all the requirements for the teacher's certificates, and must complete the fourth year's work in voice.

PIANO.

Candidates for the teacher's certificate in piano, in addition to the general requirements, must satisfactorily complete the course outlined below for the elementary and intermediate grades. They must also complete the course in ensemble playing.

Candidates for the artist's diploma in piano must satisfy all the requirements for the teacher's certificate and must complete the work in piano outlined below for the advanced grade. A graduating recital must be given, part of which program shall consist of a standard concerto for piano-forte and orchestra.

VIOLIN.

Candidates for the teacher's certificate in violin must satisfactorily complete the three-year course in violin music as outlined below, including the concertos of Viotti, Rode and Kreutzer, and the lighter works of some modern composer. They must also have some knowledge of piano playing.

Candidates for the artist's diploma, in addition to the work required for the teacher's certificate, must complete the four years' work in violin music and give a graduating recital program including one sonata or concerto, one trio or quartet and solos.

PIPE ORGAN.

Candidates for teacher's certificate in organ must satisfy all theoretical requirements for piano and the course in organ as outlined below.

Candidates for artist's diploma must satisfy all the requirements for teacher's certificate and in addition must give a public recital, the program to include selections from the larger works of Bach, Mendelssohn, Guilmant or Rheinberger Sonatas, and a group of more modern works.

NOTE.—Students desiring to become candidates for certificates or diplomas should note that while the above mentioned courses are referred to as three-year and four-year courses no definite period of time can be assigned for their completion. In all cases certificates and diplomas are awarded on the basis of the proficiency acquired rather than on the length of time devoted to the course.

PUBLIC SCHOOL MUSIC.

Candidates for the supervisor's certificate in public school music must satisfactorily complete the course in public school music (64 hours) as indicated below. A high school diploma or equivalent credit is prerequisite.

The supervisor's certificate in public school music given by the University exempts the holder from examination by the State Board.

Required Courses (50 Hours).

10 hours Harmony.
8 hours Public School Music (Material, Methods and Practice Teaching).
6 hours Public School Music (Sight Reading and Dictation).
2 hours High School Music.
4 hours Music Appreciation.
6 hours Education (Education 4, 5, 10, 12, 23, 27, or 30).
6 hours Piano.
6 hours Voice.
2 hours Accompanying.

Electives (14 Hours).

Folk dancing, physical training, English, education or modern languages; others at the discretion of the instructor in public school music.

NOTE.—Students working for the public school music supervisor's certificate must complete the work outlined below for the first five grades in piano, and for the first grade in voice.

All candidates for the supervisor's certificates who are not working for a teacher's certificate or artist's diploma in voice, will do their voice work with Miss Johnson.

All candidates for the supervisor's certificate who are not working for a teacher's certificate or artist's diploma in piano, will do their accompanying with Miss Johnson.

DEPARTMENTS OF INSTRUCTION.

Strict adherence to a fixed list of studies is not required. The needs of the individual student are considered and the studies varied accordingly. An idea of the work covered in the different classes may be obtained from the following:

PREPARATORY COURSES.

The School of Music offers well organized preparatory courses in piano and violin. The beginner's course has two lessons a week after school hours. Pupils generally remain in this course two years.

In the preparatory piano course a system of private and class lessons is used for all pupils. Experience has shown that much of the elementary study necessary for well-rounded musical development can be best done in classes. Rhythm, melody, ear-training, sight-reading and technic are included in the class work.

Pupils remain in this course until they shall have completed such studies as Berens' Velocity Studies, Loeschhorn's Thirty Melodious Studies, the easier Heller studies, Kuhlau and Clementi Sonatinas, Schumann's Album for the Young, and all major scales and arpeggios.

VOICE.

MR. BLACK.

First Grade—Technique; scales, arpeggios, etc.; vocalises. Panofka and Concone, Vaccai and Marchesi. Simple songs in Italian and English.

Second Grade—Technique; scales, Lutgen, Concone, Lamperti, Panofka, etc. Songs in Italian and English. Ensemble; duets, trios and quartets.

Third Grade—Technique; Bona, Lutgen, Concone, Bordogni, etc. Arias from standard grand operas and oratorios. Ensemble.

Fourth Grade—Technique; Lamperti, Concone, Aprile, etc. Graduation recital program.

PIANO

Elementary. GRADE I. (a) Structure of the keyboard and fundamentals of notion. (b) Technic: all major scales; finger exercises; transposition of such exercises into familiar keys. (c) Studies and short pieces of the first grade by standard composers. (d) Ear training: pitch and rhythm of short melodic phrases. (e) Sight reading: simple duets for teacher and pupils.

GRADE II. (a) More advanced notation. (b) Technic: all major scales in parallel and contrary motion; minor scales in parallel motion; finger exercises ;transposition of exercises into familiar keys.

(c) Studies by Kohler, Loeschhorn and Heller; Little Preludes by Bach, sonatinas by Clementi and others; classical and romantic compositions of second grade. (d) Ear training: phrases in one and two voice-parts. (e) Sight reading: pieces of first grade; duets.

GRADE III. (a) Technic: all major and minor scales in parallel and contrary motion; two-octave arpeggios in triads, dominant and diminished seventh chords; finger exercises; transposition of exercises into various keys. (b) Studies such as Berens' Velocity Studies; Kuhlau and Clementi sonatinas, Schumann's Album for the Young, and miscellaneous compositions of third grade. (c) Ear training: phrases in one to four-voice parts. (d) Sight reading: pieces of second grade.

Intermediate. GRADE IV. (a) Technic: scales and arpeggios in all keys; scales in thirds; exercises for fingers, arm, pedals, etc.; transposition of exercises. (b) Studies such as Kramer's Fifty Studies (Schirmer edition), Czerny's Velocity Studies, Op. 299; two-voice inventions by Bach, sonatas by Haydn and Mozart, and miscellaneous compostions of fourth grade. (c) Ear training: Phrases in two to four voice-parts. (d) Sight reading: pieces of third grade.

GRADE V. (a) Technic: arpeggios in extended positions; scales in thirds and sixths. (b) Kramer and Czerny studies continued; studies by Jensen and Haberbier; three-voice inventions by Bach, Beethoven's earlier sonatas, and miscellaneous compositions of fifth grade. (c) Ear training: phrases in four-voice parts. (d) Sight reading: sonatas by Clementi, Kuhlau, etc.

GRADE VI. (a) Technic: rapid scales and arpeggios; octave exercises; tranpositions. (b) Studies such as Clementi's Gradus ad Parnassum, Czerny Op. 740; Bach's Well-Tempered Chlavichord, other Beethoven sonatas, sonatas by Weber, Grieg, Chopin, and miscellaneous compositions of sixth grade. (c) Ear training: more difficult phrases in four voice-parts. (d) Sight reading; simpler sonatas by Haydn and Mozart.

Advanced. GRADE VII. (a) Technic: complex and extended scales and arpeggios. (b) More difficult compositions by Beethoven, Chopin, Schumann and Liszt; piano concertos by Beethoven, Mozart, Mendelssohn and others; miscellaneous compositions of seventh grade.

Examinations in Piano.

All entering students, other than beginners, will be given an entrance examination to determine for which grade they are fitted.

All piano students will be examined at least twice a year, in January and in June, to determine the progress made.

PIANO SIGHT PLAYING.

MISS MOORE.

A class in piano sight reading is offered for those sufficiently advanced.

The work is arranged for classes of four or six one hour per week and consists of rythmic scale work, transposition of simple hymn forms and study of the classics, such as overtures, quartets and symphonies and also of modern compositions.

VIOLIN.

MR. MAX DONNER.

Elementary. Scales and finger exercises. Schools and studies by Dancla, de Beriot, Keyser, Leonard Dont, etc.

Solos by de Beriot, David, Dancla, etc.

To pass from the elementary into the intermediate grade, a satisfactory performance of the Accolay Concerto No. 1 Am. is required.

Intermediate. Scales and arpeggi in three octaves. Studies by Kreutzer, Fiorillo, and Caprices by Rode.

Concertos and solos—Mozart E flat major; Viotti No. 22, 23; Kreutzer No. 19; Rode No. 7, 8; de Beriot No. 6, 7, 9; Beethoven Romances, etc.

Advanced Soloist Course. Scales and arpeggi in three octaves. Studies and Caprices by Rode, Fiorillo, Kreutzer, Vieuxtemps, Ernest, Bach, and Paganini.

Concertos and Solos. Spohr 2nd and 8th; Viotti 22nd; Bach, Chaconne, Concerto in E major; Wieniawski 2nd; Mendelssohn, Bruch, Beethoven, Vieuxtemps No. 5; Saint-Saens B minor, and Paganini.

NOTE—All advanced pupils are required to participate in the rehearsals of the orchestra, unless especially excused, and play in the Ensemble and String Quartet class.

PIPE ORGAN.

MRS. SNEE.

The organ course is extended to provide a thorough and complete preparation for the work of a church organist and accompanist.

Before taking up organ the requirements of the fourth grade of piano must be met.

Stainer's Organ Primer, with special pedal studies and hymn playing comprise the preparatory work.

Rink's Organ School, Buck's studies in Phrasing and the works of Bach, Mendelssohn, Guilmant and Rheinberger comprise the groundwork of study through the course.

PUBLIC SCHOOL MUSIC.

MISS JOHNSON.

1. **Sight Reading and Melodic Dictation.** (3 Hrs.) This course is designed to meet the needs of students who are deficient in rhythm, intervals, scales, etc., and who are unable to read vocal music with facility. In addition to the work in sight reading, the student will be trained to recognize melodies by ear and to write them in correct notation.

First semester M. W. F., 3:00.

2. **Sight Reading and Melodic Dictation** continued. (3 Hrs.)
Second semester; M. W. F., 3:00.

3. **School Music Methods, Materials and Practice Teaching.** (4 Hrs.) This course is intended to provide the preparation and equipment necessary for a supervisor of music in the public schools. It will include: teaching of technic; classroom management; essentials in public school music; the child-voice; lesson plans for each grade; materials; practice teaching.

First semester; M. W. Th. F., 10:00.

4. **School Music Methods and Practice Teaching** continued (4 Hrs.)
Second semester; M. W. Th. F., 10:00.

5. **High School Music.** (1 Hr.) The general subject of music in the high and junior high schools. Chorus conducting; orchestra; glee clubs; the arrangement of courses in harmony and appreciation of music for high schools; applied music study; credits for outside work, etc.

First semester; M., 2:00.

6. **High School Music** continued. (1 Hr.)
Second semester; M., 2:00.

7. **Appreciation of Music.** (2 Hrs.) This course is designed as preparation for the teaching of the subject, as well as to meet the needs of all students interested in music. Study of masterpieces. The lectures will be illustrated by the instructor at the piano and by the use of the Victrola. This course does not presuppose a technical knowledge of music.

First semester; W. F., 2:00.

8. **Appreciation of Music** continued. (2 Hrs.)
Second semester; W. F., 2:00.

WOOD AND BRASS INSTRUMENTS.

MR. MESTREZAT.

Opportunity is offered in this course to obtain the instruction necessary to fit one to play the various wood-wind and brass instruments used in orchestras and bands.

ENSEMBLE.

MR. DONNER.

1. **Lessons in Accompanying.** This course is intended to furnish opportunity to advanced students to acquire the art of accompanying songs, violin and cello solos.

2. **Chamber Music.** The study of sonatas, trios and string quartets by by Haydn, Mozart, Beethoven, Bach, Handel, Mendelssohn, Gade, Greig, etc. Open to violinists, cellists, pianists and viola players. A preparatory class is also offered, the work to be studied including trios by Reinecke, Bohm, Haydn, Helmsberger, Schubert and Weber.

3. **Orchestra Music.** A study of the usual orchestral works and of accompaniments of pianoforte and violin concertos.

THEORY OF MUSIC.

MISS HAYES.

NOTE: Fifteen hours of the following courses may be offered for credit in the College of Arts and Sciences.

1. **Harmony.** (5 Hrs.) Intervals. Scale and melody writing. Construction of the period. Triads, inversions, chord connections in three and four parts, cadences, chord of the seventh. Modulation.
First semester; 9:00.

2. **Harmony.** (5 Hrs.) Harmonizing of melodies employing the use of triads, dominant, diminished and secondary seventh chords, with inversions, in dispersed harmony. Chorals. Chants.
Second semester; 9:00.

3. **Counterpoint.** (5 Hrs.) Single melodic lines. Narrow and wide leaps. Counterpoint in one, two, three, four and more parts. Syncopation, rests, ties. Diversity of rhythmic movement. Modulation. Motive development. Prerequisite: Harmony 1 and 2.
First semester; 11:00.

4. Form and Analysis. (5 Hrs.) Chord reading. Primary forms. Canon in various intervals. Chamber music, oratorios and symphonies. The fugue form. The sonata form. Romantic art forms and modern forms. Orchestration.

Second semester; 11:00.

5. History of Music. (4 Hrs.) A general survey of the history of music. Drill in the pronunciation of names. Ancient music. Classic music.

First semester; M. T. Th. F., 10:00.

6. History of Music. (4 Hrs.) Music of the nineteenth century and present day topics. Romantic period in composition and opera. Modern period. Recent opera and oratorio. Critics and criticism. Present state of music. Twentieth century composers. Illustrations of periods by instructor and class.

Second semester; M. W. Th., 10:00.

SUMMER SCHOOL.

The University Summer School begins each year at the close of the second semester (about June 15) and lasts twelve weeks. Several members of the Music School Faculty are in residence for the first six weeks and offer courses of special interest to those students who can attend only in summer, for particular panis is taken to cover all the ground possible in six weeks and the courses of study are arranged with that end in view.

TUITION.

	Lessons per week		
Voice	One	Two	Three
Mr. Black	$35.00	$55.00	$70.00
Miss Bunce	18.00	30.00	
Piano			
Mrs. Black	35.00	55.00	70.00
Mrs. Snee	20.00	30.00	
Miss Moore	20.00	30.00	
Elementary (Under 14 years)	15.00 a sem.		
Violin			
Mr. Donner			
Elementary	20.00	30.00	
Intermediate	25.00	35.00	
Advanced	30.00	50.00	
Pipe Organ			
Mrs. Snee	30.00	50.00	
Wood and Brass Instruments			
Mr. Mestrezat	14.00	20.00	
Public School Music (All work in Classes)			
Miss Johnson			
Material, Methods and Practice Teaching	20.00 a sem		
Sight Reading and Dictation	15.00 a sem.		
High School Music	5.00 a sem.		
Appreciation of Music	10.00 a sem.		
Voice	25.00 a sem.		
Ensemble			
Piano (Mr. Donner) 1 hr. each week	20.00 a sem.		
Piano Sight-Playing (Miss Moore) 1 hr. each week	10.00 a sem.		
Theory: Class daily, one hour			
Harmony, Analysis or Counterpoint	20.00 a sem.		
Musical History	16.00 a sem.		

Piano for practice, one hour a day, will be furnished at $6.00 a semester; two hours a day at $10.00 a semester; three hours a day at $14.00 a semester; four hours a day at $18.00 a semester.

Pipe organ practice. one hour a day, $10.00 a semester.

Students whose work is wholly in the School of Music pay only tuition.

Students who register in the School of Music and take University work not required in the music courses are subject to the usual University fees except the athletic fee.

THE SUMMER SCHOOL

Full session, twelve weeks, June 13 to August 27, 1921.

First term, June 13 to July 22, 1921.

Second term, July 23 to August 27, 1921.

THE FACULTY.

FRANK BUTLER TROTTER, A. M., LL. D., *President of the University*

WAITMAN BARBE, A. M., Litt. D., *Director of the Summer School, and Professor of English in the University; English Literature.*

ALFRED JARRETT HARE, A. M., *Registrar.*

EDWIN SWITZER ALLEN, Ph. D., *Assistant Professor of Mathematics; Mathematics.*

CHARLES HENRY AMBLER, Ph. D., *Professor of History; History.*

EDGAR LEWIS ANDREWS, B. S. Agr., *Associate Professor of Poultry Husbandry; Poultry Husbandry.*

ERNEST LEE ANTHONY, M. S., *Professor of Dairy Husbandry; Dairy Husbandry.*

LONNA DENNIS ARNETT, Ph. D., *Librarian; Library Science.*

GEORGE ROSS BANCROFT, Ph. D., *Associate Professor of Chemistry; Chemistry.*

WILBUR L. BEAUCHAMP, A. M., *Instructor in School of Education High School, University of Chicago; Education.*

ETHEL BORDEN BLACK, *Instructor of Piano; Piano.*

LOUIS BLACK, *Director of School of Music; Voice.*

MARION BRECK, *Associate Professor of Home Economics; Home Economics.*

INEZ BROOKFIELD, *Instructor in nthe Social Motive School, New York City; Education.*

ALFRED COPELAND CALLEN, E. M., M. S., *Professor of Mining Engineering; Mining.*

CHARLES BENTON CANNADAY. A. M., *Professor of Latin; Latin.*

LORIMER VICTOR CAVINS, A. M., *Professor of Education; Education.*

FLOYD EARLE CHIDESTER, Ph. D., *Associate Professor of Zoology; Zoology.*

OLIVER PERRY CHITWOOD, Ph. D., *Professor of History; History.*

FRIEND EBENEZER CLARK, Ph. D., *Professor of Chemistry; Chemistry.*

JOHN HARRINGTON COX, A. M., *Professor of English Philology; English Literature.*

ADAM CRAWFORD, *Instructor in Mining Extension; Mining.*

CHARLES SUMNER CROW, A. M., *Professor of Education in Rutgers College; Education.*

ANDREW JACKSON DADISMAN, M. S. Agr., *Associate Professor of Farm Economics; Farm Economics.*

ARLEIGH LEE DARBY, A. M., *Professor of Romance Languages; French.*

EARL C. H. DAVIES, A. M., *Associate Professor of Chemistry; Chemistry.*

MAX DONNER, *Instructor of Violin Ensemble; Violin Ensemble.*

CARRIE B. EDMONDSON, *Instructor in Northern Illinois State Normal School; Education.*

JOHN ARNDT EIESLAND, Ph. D., *Professor of Mathematics; Mathematics.*

E. E. ERICSON, B. S., *Supervisor of Manual Arts, Okmulgee, Okla.; Manual Arts and Vocational Education.*

ARTHUR A. H. FAIRCHILD, Ph. D., *Professor of English in the University of Missouri; English Literature.*

ELIZABETH DEE FROST, A. M., *Instructor in English; English.*

RALPH JOHN GARBER, M. S., *Associate Professor of Agronomy; Agronomy.*

ENOCH FRANKLIN GEORGE, Ph. D., *Assistant Professor of Physics; Physics.*

JOSEPH HARVEY GOURLEY, M. S., *Professor of Horticulture; Horticulture.*

JAMES HERBERT GILL, M. E., *Professor of Machine Construction; Machine Construction.*

THOMAS L. HARRIS, Ph. D., *Professor of Sociology in Miami University; Sociology.*

LESLIE DAVID HAYES, B. S., M. E., *Professor of Machine Design and Construction; Mechanical Drawing.*

HARRY ORAM HENDERSON, M. S., *Assistant Professor of Dairy Husbandry; Dairy Husbandry.*

LAWRENCE BENJAMIN HILL, A. M., *Professor of Education; Education.*

JOSEPH ELLIS HODGSON, Ph. D., *Professor of Mathematics; Mathematics.*

AGNES CHADBOURN JOHNSON, A. B., *Instructor in Public School Music; Public School Music.*

DAVID DALE JOHNSON, A. M., *Professor of English; English.*

RUTH JONES, *The American Red Cross; Sociology.*

RICHARD C. JOSLIN, *Assistant Professor of Romance Languages in Worcester Polytechnic Institute; French.*

CLARA E. KAPS, A. M., *Instructor Chico State Normal School, California; Education.*

W. F. KENNEDY, A. M., *Associate Professor of Education in the University of Pittsburgh; Public Speaking.*

EDWARD ALEXANDER LIVESAY, A. M., *Professor of Animal Husbandry; Animal Husbandry.*

MARY ALICE MILNER, B. S., H.E., *Instructor in Home Economics; Home Economics.*

MONT FRANCIS MORGAN, B. S. Agr., *Assistant Agronomist; Agronomy.*

SAMUEL MORRIS, M. A., B. A., *Associate Professor of Chemistry; Chemistry.*

SUSAN MAXWELL MOORE, A. B., *Dean of Women and Instructor in Piano; Piano.*

WILLIAM NORRIS, Jr., *Instructor in Mining Engineering; Mining.*

THEODORE E. ODLAND, B. S., M. S., *Assistant Professor of Agronomy; Agronomy.*

LEONARD MARION PEAIRS, B. S., Agr., M. S., *Professor of Entomology; Entomology.*

PERLEY ISAAC REED, Ph. D., *Assistant Professor of English; English and Journalism.*

LOUIS AUGUST RUFENER, Ph. D., *Associate Professor of Economics; Sociology and Economics.*

HELEN L. RUSSELL, *Supervisor of Physical Education in Morgantown, West Virginia, schools; Physical Education.*

RAYMER EGBERT SEAMAN, *Instructor in Woodworking and Foundry Practice; Manual Training; Woodworking.*

EARL REED SCHEFFEL, M. S., *Assistant Professor of Geology; Geology and Mineralogy.*

WILSON PORTER SHORTRIDGE, Ph. D., *Professor of History in the University of Louisville; History.*

GRACE MARTIN SNEE, B. M., *Instructor in Piano and Pipe Organ; Piano and Pipe Organ.*

ROBERT CLINTON SPANGLER, A. M., *Assistant Professor of Botany; Botany.*

AGATHA L. SULIS, *Elementary Supervisor in the Bessemer, Michigan, Public Schools; Education.*

RUFUS ASA WEST, *Instructor at Metalworking; Metalworking.*

KYLE CHESTER WESTOVER, B. S., *Assistant Professor of Horticulture; Horticulture.*

MABELLE ELEANOR WHETSELL, *Assistant in Piano; Piano.*

CHARLES VINYARD WILSON, B. S., *Professor of Animal Husbandry; Animal Husbandry.*

CHARLES HERMAN WINKLER, Ph. D., *Professor of Agriculture Education; Agriculture Education.*

JOHN E. WINTER. Ph. D., *Assistant Professor of Psychology; Education.*

LULU E. WRIGHT, *Critic Teacher Lincoln Practice School; Teachers' College, Columbia University; Education.*

ANNOUNCEMENTS

LENGTH OF THE SESSION.

The twenty-third session of the Summer School of West Virginia University will begin Monday afternoon, June 13, and continue until the close of Saturday, August 27, 1921. It will be divided into two terms, as designated above; students may attend for the full session or for either of the short terms. The amount of college credit obtained for the full session is twelve hours and for either of the short terms six hours. The second six weeks term will be condensed into five weeks by holding classes on Saturdays.

ADMISSION.

There are no requirements for admission to the Summer School unless the student desires University credit for the work to be done. If he desires regular classification he must meet the regular University requirements for admission, a statement of which may be found in the University catalogue.

FEES.

The fee for the Summer School, either for the full session or for either of the short terms, is $10.00 for resident students of West Virginia and $15.00 for non-residents. This fee covers matriculation, incidentals and laboratory charges.

LIVING ACCOMMODATIONS.

For Women.

Miss Susan Maxwell Moore, Dean of Women, has charge of the living accommodations for women students in the Summer School. Inquiries as to rooming and boarding should be addressed to her. It is desirable to engage living accommodations before coming to the Summer School.

Women students arriving in Morgantown in the daytime should go first to Woman's Parlor, Woodburn Hall, unless they have already made arrangements for their living accommodations; those arriving at night should go to Woman's Annex, 247 Willey Street, where they will be taken care of until permanent arrangements for them can be made. Street cars go directly from the railway stations to the Annex.

Rooms in Woman's Hall, according to location, cost $11, $12, or $13 per person, for six weeks; in the Annex, $7.50, $9 and $10.50. Table board is $6 per week. Meals are served in the dining hall of the Woman's Hall, which accommodates 300 persons. A deposit of $10.00 is required from all who desire to secure rooms either in the Woman's Hall or the Annex.

For Men.

In private homes room rent ranges from $2.00 to $2.50 a week. Board may be had in private boarding houses at from $7.00 to $8.00 a week. Board and room together run from $9.00 to $10.50 a week. Men desiring accommodations should address Ralph Maxwell, Y. M. C. A., Morgantown, West Virginia, stating kind of place wanted, locality desired, and price they are willing to pay.

Prospective Summer School students are urged to write direct to either Miss Moore or Mr. Maxwell about rooming and boarding accommodations, rather than to the President of the University or to the director of the Summer School.

FEATURES OF THE SUMMER SCHOOL.

Among the chief features of the Summer School are these:

Regular College Courses in nearly all of the departments, and in many of the departments a large variety of courses. One-third of a year's work may be done in one summer session. Credit is also given for six weeks' work.

Regular and special courses for teachers, principals, supervisors, and superintendents, given by members of the faculty of the department of education assisted by a staff of specialists from other institutions. Among these courses will be a number of courses in the methods of teaching various subjects in the elementary grades, the junior high school, and the high school.

Demonstration Department, under the supervision of Professor L. B. Hill. This department has been enlarged to include the junior high school. This demonstration or "model" school will, therefore, include classes of children in all the elementary grades and the first year of high school, the seventh, eighth, and nine years being organized into a junior high school. This department will continue through the first six weeks only.

Graduate Courses. An increased number and variety of graduate courses will be offered. Under a ruling of the faculty a year ago it is now possible to secure the master's degree by attendance exclusively at the Summer sessions if so desired. All who are interested in graduate work should write to Dr. J. M. Callahan, Chairman of the Committee on Graduate Study.

Cooperative work with the American Red Cross.—The Summer School of West Virginia University has been selected by the American Red Cross as one of the institutions at which courses will be given for the training of community leaders. Dr. Harris of Miami University and Miss Ruth Jones of Washington, D. C., will conduct these courses, which will be given as a part of the great educational plan of the American Red Cross. The courses will be given for the first six weeks, and for twelve weeks if there is sufficient demand.

Teachers' Certificates. By authority of the State Board of Education it is announced that graduates of a first class high school or a school of equivalent grade will be granted a teachers' temporary certificate upon the completion of "satisfactory work in educational subjects in an approved school for not less than six weeks." The Summer School has provided courses especially suited to the needs of such students. These courses will be given during both of the terms and students may take them during either term.

By act of the Legislature of West Virginia, holders of first-grade teachers' certificates may obtain a renewal of such certificate by studying for six weeks in an accredited summer school. By doing satisfactory work in three courses (classes), wholly professional or partly professional and partly academic, in the University Summer School, this requirement may be met.

CREDITS, REPORTS AND CERTIFICATES.

Entrance credit or college credit may be had for most of the Summer School courses. The amount of credit will be found stated after each course in these Announcements.

Only regularly matriculated students may use Summer School credits to count toward a degree at West Virginia University, but all others who do the work of the Summer School courses and take the examinations in them will receive reports of their grades to be used in any way they may like.

All grades, whether those of matriculated University students or of others, will be mailed to the students by the Registrar at the close of the twelve weeks' course.

Students who do not work for grades will receive the following certificate by applying to the director of the Summer School **before leaving Morgantown.**

> "This is to certify that_____ attended the Summer School of West Virginia University, 1921, for_____weeks and pursued the following courses:"

The work of the students attending the Summer School for the purpose of renewing their teachers' certificates will be reported directly to the State Department of Schools, by the Director of the Summer School.

COUPON OF CREDIT.

For regular work in the Summer School for six weeks, a "Coupon of Credit" may be obtained which will entitle the holder to an increase of $1.00 a month in his salary as a teacher. Summer School students desiring this "Coupon of Credit" must make application to the Registrar of the University **before leaving Morgantown.**

TEXT-BOOKS.

All text-books needed may be obtained at the University bookstore, in Martin Hall.

VESPER SERVICES.

The School of Music Faculty, under the direction of Louis Black, will give a series of weekly musical recitals during the first six weeks of the session every Thursday at 8:30 o'clock p. m. These recitals will be free. In previous summers these musical recitals have been given at 11:00 o'clock on Wednesdays.

INFORMATION.

For information concerning any department of the Summer School write to the Director.

WAITMAN BARBE, Litt. D.,
Morgantown, W. Va.

FRANK BUTLER TROTTER, LL.D.,
President of the University.

SCHEDULE OF COURSES

NOTE—Courses marked with a (†) will be given during the second term only.

Those marked with a (*) will be given for twelve weeks if there is sufficient demand.

Explanation of room designations:—W., Woodburn Hall; M., Martin Hall; S., Science Hall; L., Library; O. H., Oglebay Hall; M. H., Mechanical Hall; S. M., School of Music; C., Commencement Hall.

8:30 A. M.

Course. Title and Number.	Weeks.	Hours Credit.	Instructor.	Room.
The Rural Teacher	6	2	Hill	17 W.
†Curriculum (Edu. 13 S.)	6	2	Hill	17 W.
Educational Tests and Measurements (Edu. 30 S)	6	2	Cavins	16 W.
Subject Matter and Method of General Science (Edu. 38 S)	6	2	Beauchamp	5 M.
Method in Primary English (Edu. A)	6	¼ unit	Kaps	20 S.
Teaching of English in the Secondary Schools (Edu. 18 S)	6	2	Kennedy	
†Methods in American History (Edu. 6)	6	¼ unit	Edmondson	20 S.
Sight Reading Melodic Dictation (P. S. M. 1)	6	¼ unit	Johnson	8 S. M.
Composition and Rhetoric (English 1 S)	12	4	Johnson & Frost	30 W.
Masterpieces (Eng. 27 S)	6	2	Fairchild	31 W.
A Study of Poetry (Eng. 46)	6	2	Barbe	11 S.
Continental Europe in 19 Cen. (History 15 S)	6	2	Chitwood	41 W.
†Contemporary Europe (His. 50 S)	6	2	Ambler	41 W.
Elements of Sociology (Sociology 1)	6	2	Rufener	20 W.
Selection and Preparation of Food (Home Economics 63 S)	6	2	Milner	212 O. H.
Problems in Teaching Home Economics (Home Ec. 66 S)	6	2	Breck	208 O. H.
First Year Latin (Latin A)	6		Cannaday	29 W.
Library Science	6	2	Arnett	L.
Elementary French (French 1)	12	4	Joslin	19 W.
Syntax and Technical Pronunciation (French 33 S)	6	2	Darby	18 W.
General Botany (Botany 1)	12	4	Spangler	309 O. H.
Introductory Physics (Physics 1)	6	3	George	14 M.
Introductory Physics (Physics 3)	6	3	George	14 M.
†Organic Chemistry (Chem. 9 S)	6	5	Clark	12 S.
Economic Geology (Geol. 4 S)	6	2	Scheffel	111 M. H.
†Invertebrate Zoology (Zool. 1)	6	4	Chidester	49 W.

Course. Title and Number.	Weeks.	Hours Credit.	Instructor.	Room.
Farm Crops (Agronomy 2)	12	4	Garber, Odland and Morgan	O. H.
Soil Fertility (Agronomy 21)	12	4	Garber, Odland and Morgan	O. H.
Vegetable Gardening	12	4	Gourley and Westover	O. H.
Organization of Manual Training	6	2	Ericson	208 M. H.
9:00 A. M.				
†Methods in Geography (Edu. D)	6	¼ unit	Edmondson	20 S.
†Educational Psychology (Edu. 23 S)	6	2	Hill	17 W.
The Project Method of Teaching (Education 37 S)	6	2	Crow	12 W.
†Philosophy of Education (Edu. 4)	6	2	Winter	16 W.
English in the Grades	6	2	Kaps	20 S.
Appreciation of Music (Pub. School Music 2)	6	¼ unit	Johnson	8 S. M.
Rudyard Kipling (English 58)	6	2	Cox	32 W.
Shakespeare (English 25 S)	6	2	Fairchild	31 W.
News Gathering and Writing (Eng. 71)	12	4	Reed	24 W.
English for Teachers (Eng. D)	12	4	Frost & Johnson	30 W.
Local and State Government (Hist. 37 S)	6	2	Ambler	41 W.
†Effective Speaking (Public Speaking 12)	6	2	Lane	5 M.
Municipal Government (His. 40 S)	6			
*Rural School Problems (Sociology 10 S)	6	2	Harris	42 W.
Principles of Economics (Ec. 15 S)	6	2	Rufener	20 W.
Caesar (Latin B)	6		Cannaday	29 W.
Fiction of the 19th Cen. (French 3)	12	4	Joslin	19 W.
Contemporary French Drama (French 17)	6	2	Darby	18 W.
Trees (Botany 24 S)	6	2	Spangler	309 O. H.
†General Bacteriology (Botany 10 S)	6	2	Spangler	309 O. H.
General Physics (Physics 6)	6	4	George	14 M.
General Physics (Physics 8)	6	4	George	14 M.
Inorganic Preparations and Qual. Analysis (Chem. 5 S)	6	4	Davies	37 S.
Plane and Spherical Trig. (Math. 6 S)	12	4	Eiesland	219 M. H.
Physical Geography (Geology 1 S)	6	2	Scheffel	111 M. H.

Course. Title and Number.	Weeks.	Hours Credit.	Instructor.	Room.
Animal Husbandry 40	12	4	Livesay & Wilson	O. H.
Farm Dairying (Dairy Husbandry 21)	12	4	Anthony and Henderson	O. H.
†Marketing Agricultural Products (Farm Economics 7)	6	2	Dadisman	O. H.
Elementary Manual Training	6	2	Ericson	208 M. H.
10:00 A. M.				
How to Teach (Education 32 S)	6	2	Hill	17W.
†School Administration (Edu. 6 S)	6	2	Hill	17W.
Principles of Learning and Teaching (Education 10 S)	6	2	Crow	
Methods of Handling Educational Data (Education 26 S)	6	2	Cavins	16 W.
†Principles of Studying (Edu. 17 S)	6	2	Winters	16 W.
Methods in Junior High Schools & Grammar Grades (Edu.)	6	2	Kennedy	
Methods in Public School Music (Pub. School Music 3)	6	¼ unit	Johnson	8 S. M.
The Novel (English 40)	6	2	Cox	32 W.
†English Words (English 17)	6	2	Johnson	24 W.
English Literature (Eng. 26)	6	2	Reed	24 W.
†Literature in America (Eng. 39)	6	2	Reed	21 W.
English Literature (Eng. 27)	6	2	Frost	30 W.
American Social and Economic History (History 29 S)	6	2	Chitwood	41 W.
Reconstruction and Later American History (History 24 S)	12	4	Shortridge and Ambler	20 L.
*Rural Organization (Sociology 20)	6	2	Harris & Jones	42 W.
Methods of Case Work (Sociology 21 S)	6		Jones & Harris	
Labor Problems (Economics 11 S)	6	2	Rufener	20 W.
Latin 1 or 3	6	2	Cannaday	29 W.
Narration and Understanding (Fr. 34 S)	6	2	Darby	18 W.
General Inorganic Chemistry (Chem. 1 S)	6	4	Bancroft	12 S.
†General Inorganic Chemistry (Chem. 2 S)	6	4	Morris	12 S.
Elementary Algebra (Algebra A)	12	½ unit	Allen	225 M. H.
College Algebra (Math. 3)	6	2	Eiesland	219 M. H.
Farm Poultry (Poultry Husbandry 1)	12	4	Andrews	O. H.
General Agriculture (Agri. Ed. A.)	6	¼ unit	Winkler	O. H.
Vocational Education	6	2	Ericson	208 M. H.

11:00 A. M.

Course. Title and Number.	Weeks.	Hours Credit.	Instructor.	Room.
†Methods in Child Lit. and Language (Edu. E)	6	¼ unit	Edmondson	20 S
Supervision of Project Work (Ed. 36 S)	6	2	Crow	17 W.
Experimental Education (Ed. 27 S)	6	2	Cavins	16 W.
†History of Education (Ed. 1 S)	6	2	Winter	16 W.
Method in Arithmetic (Ed. B)	6	¼ unit	Kaps	20 S.
Modern Experiments in Public Education (Education 43 S)	6	2	Kennedy	
General Survey of English Literature (English 26)	6	2	Cox	32 W.
Literary Criticism (Eng. 65 S)	6	2	Fairchild	31 W.
Composition and Rhet. (Eng. 2)	6	4	Reed	24 W.
Review of American History (History A)	6	¼ unit	Shortridge	20 L.
Division and Reunion (History 23 S)	6	2	Chitwood	41 W.
†The Art of Reading Aloud (Pub. Sp. 21)	6	2	Lane	5 M.
*Family and Child Welfare	6	2	Jones	
Teaching High School Latin (Latin 19 S)	6	2	Cannaday	29 W.
Drama 19th Century (Fr. 6 S)	12	4	Joslin	19 W.
Qual. and Quan. Analysis (Chem. 18 S)	6	5	Davies	37 S.
Plane Geometry (Math. B)	12	½ unit	Allen	225 M. H.
Solid Geometry (Math. 2)	6	2	Allen	225 M. H.
General Geology (Geology 2 S)	6	2	Scheffel	111 M. H.
General Entomology (Entomology 1)	12	4	Peairs	O. H.

1:30 P. M.

Home Economics (64 S)	6	2	Milner	212 O. H.
Elementary Clothing (Home Ec. 21 S)	6	2	Breck	212 O. H.
Introductory Physical Lab. (Physics 2)	6	1	George	12 M.
Introductory Physical Lab. (Physics 4)	6	1	George	12 M.

2:00 P. M.

Physical Education (Education)	6		Russell	Gym.
†Farm Records and Accounts (Farm Ec. 8)	6	2	Dadisman	O. H.
Teaching Vocational Agri. (Agri. Edu. 36)	6	4	Winkler	O. H.
Elementary Manual Training	6	2	Ericson and Seaman	203 M. H.

Course. Title and Number.	Weeks.	Hours Credit.	Instructor.	Room.
Mechanical Drawing	6	2	Hayes	213 M. H.
Sheet Metal Work	6	2	West	4 M. H.
Machine Shop Practice	6	2	Gill	101 M. H.
Forging	6	2	West	2 M. H.
3:00 P. M.				
Physical Education (Edu. B)	6	¼ unit	Russell	Gym.
4:00 P. M.				
Physical Education (Edu. C)	6		Russell	Gym.
†Modern Acting Drama (Pub. Spk. 24)	6	2	Lane	5 M.
Theory of Functions (Math. 17)	12		Eiesland	219 M. H.
8:30 P. M.				
Musical Recital and Vesper Services, every Thursday	C			
Lectures on Shakespeare, every Tuesday, Fairchild	C			
Hours to be Arranged				
Physical Education D	6		Russell	Gym.
Physical Education E	6		Russell	Gym.
Advanced Organic Chemistry (Chemistry 15 S)			Clark	2 S.
Analytic Geometry (Math. 5 S)	12			M. H.
Differential and Integral Calculus (Math. 7 S)	12		Eiesland	219 M. H.
The Mathematical Theory of Investment (Math. 23 S)	6	2	Allen	225 M. H.
Differential Equations (Math. 9)	12	4	Eiesland	219 M. H.
Non-Euclidean Geometry (Math. 26 S)	12		Allen	219 M. H.
Theory of Probability (Math. 27 S)	12		Eiesland	225 M. H.
†Current Literature Zoology (Zool. 19)	6	1	Chidester	49 W.
Systematic Entomology (Ent. 4)	12		Peairs	O. H.
Entomological Research (Ent. 5)	12	4	Peairs	O. H.
Research (Poultry Husbandry)	12		Andrews	O. H.
Mechanical Drawing, 20, 22, 24, 25, 182 S.	6	2	Hayes	213 M. H.
Descriptive Geometry	6		Hayes	213 M. H.
Woodworking 1 and 3	6		Seaman	M. H.
Pattern Making	6		Gill	203 M. H.
Machine Tool Work	6		Gill	101 M. H.
Machine Construction	6		Gill	101 M. H.
Shop Methods	6		Gill	101 M. H.
Virgil (Latin 3)	6	2	Hare	12 W.

COURSES OPEN TO GRADUATE STUDENTS.

Education 38; Hill; 9:00 o'clock.
Education 13 S.; Hill; 8:00 o'clock.
Education 26 S.; Cavins; 10:00 o'clock.
Education 30 S.; Cavins; 8.00 o'clock.
Education 6 S.; Hill; 10:00 o'clock.
Education 10 S.; Crow; 10:00 o'clock.
Education 20 S.; Cavins; 11:00 o'clock.
French 33 S.; Darby; 8:00 o'clock.
History 15 S.; Chitwood; 8.00 o'clock.
History 50 S.; Ambler; 8:00 o'clock.
Chemistry 15; Clark; Hour to be arranged.
Mathematics 9; Eiesland; Hour to be arranged.
Mathematics 17; Eiesland; 4 o'clock.
Mathematics 26 S.; Allen; Hour to be arranged.
Mathematics 27 S.; Eiesland; Hour to be arranged.
English 58; Cox; 9.00 o'clock.
English 40; Cox; 10:00 o'clock.
English 25 S.; Fairchild; 9:00 o'clock.
English 65 S.; Fairchild; 11.00 o'clock.

THE DIVISION OF MILITARY SCIENCE AND TACTICS

THE FACULTY [1]

FRANK BUTLER TROTTER, A.M., LL.D., *President of the University.*

HARLAN L. MUMMA, Captain Infantry, United States Army, *Professor of Military Science and Tactics and Commandant of Cadets.*

HELMER SWENHOLT, Captain of Engineers, *Assistant Professor of Military Science and Tactics and Commanding Officer of the Engineer Unit.*

GILMER M. BELL, First Lieutenant Infantry, D. O. L., United States Army, *Assistant to the Professor of Military Science and Tactics.*

EDWARD POWER, Warrant Officer (Infantry), *Assistant to the Professor of Military Science and Tactics.*

FRANK SIMA, Staff Sergeant, D. E. M. L. (Engineers), *Assistant to the Professor of Military Science and Tactics.*

H. C. MYERS, First Sergeant, D. E. M. L. (Infantry), *Assistant to the Professor of Military Science and Tactics.*

JAMES B. RIDDLE, First Sergeant, D. E. M. L. (Infantry), *Assistant to the Professor of Military Science and Tactics.*

HARLEY DEARBORN, First Sergeant, D. E. M. L. (Infantry), *Assistant to the Professor of Military Science and Tactics.*

West Virginia University being one of the beneficiaries of the Act of Congress of 1862, instruction in military tactics is made compulsory for the freshman and sophomore years.

The Division is in charge of an officer of the United States Army, detailed by the War Department, as professor of military science and tactics. The Cadet Corps is inspected once each year by an officer of the General staff of the Army and several times during each year by the District Military Inspector.

An Infantry Unit, Senior Division, of the Reserve Officers' Training Corps was established by the War Department on December 12, 1916. An engineer unit was established in 1919.

[1] As constituted April 15, 1921.

REQUIRED WORK IN MILITARY SCIENCE.

Extract from Chapter Forty-five of the Code of West Virginia.

Section 140. **Military Training.** Male students of suitable age in the university shall be required, under such regulations as the State Board of Education shall prescribe, to enroll in the department of military science. Said students shall serve for the time required by said regulations and shall be entitled to such special privileges and immunities as the State Board of Education may determine. The State Board of Education shall have authority to accept appropriations, material and other benefits from the Federal Government on account of any federal law providing for aid to the West Virginia University for giving instruction in military science and to co-operate as far as practicable with the Federal Government for such purpose.

Order of the State Board.

The following order has been adopted by the State Board of Education:

Ordered that all male students, with the exceptions hereinafter named, enroll themselves in the Division of Military Science and follow diligently the course of instruction provided therein. Proficiency in this course shall be required for graduation.

Practical and theoretical instruction shall be given four hours per week throughout the school year to all students except those in the advanced class who will be required to take five hours per week. A credit for one hour shall be given for each semester's work satisfactorily completed. Such credit shall be included in the computation of the student's standing at the end of each semester.

Every student enrolled in the Division of Military Science, shall at the time of his enlistment, deposit with the financial secretary of the University $10.00 to cover any loss or damage of books or government property occasioned through fault or neglect on the part of the cadet. This sum will be refunded to cadet at expiration of school term upon presentation to financial secretary of certificate of property clearance.

The following classes of students shall not be required to enroll themselves in the Military Division, but may elect to do so:

(1) All students who are citizens of a foreign country and do not intend to become citizens of the United States.

(2) All students who at date of entrance in the University are more than twenty-three years of age.

(3) All graduate students.

(4) All students whose studies are entirely in the School of Music.

(5) All students who are taking only the short course, or the special winter course, or agricultural extension work in the College of Agriculture.

(6) All students who are classified as juniors or seniors in the various colleges, and all who have completed two years' service in the military division.

(7) All students who are physically unable to perform military duty.

A board, to be known as the military and gymnasium board, shall be composed of the commandant of cadets, the director of physical training, and a surgeon of the corps of cadets, designated by the President. This board shall act upon claims for exemption from military service.

Students who claim exemption under any one of the first six cases must, within seven days after their registration in the University, present to the commandant, in writing, their request accompanied by such evidence as is relied upon to support the request. A failure to make the request within the stated time shall bar the student from claiming exemption.

Applicants for exemption on the ground of physical disability shall be carefully examined by a surgeon of the corps. A fee of one dollar to be paid to the examining surgeon shall be charged for such examination.

Students exempted under the seventh case shall, upon recommendation of the military and gymnasium board be required to register for such physical training as they can take until they have earned a credit equal to that given for the prescribed military work.

In none of the preceding cases shall the student absent himself until his application has been acted upon.

It shall be the duty of the commandant to notify the chairman of the committee on classification and grades whether the military and gymnasium board exempts a student or recommends that he be required to register for other work in place of military drill.

Whenever the cause for exemption shall no longer exist, it shall be the duty of the student to present himself for drill at the next drill period.

Students may appeal from the decision of the commandant of cadets or the military and gymnasium board, in which case the appeal shall be decided by the council of administration.

All cadet officers taking military instruction as an elective shall be, as to their tutition fees, on the same basis as state cadets.

Other Regulations Concerning Cadets.

A uniform for each cadet is furnished by the Government. The cadet is required to wear this uniform at drill.

Cadets who are bona fide residents of West Virginia are known as state cadets. A state cadet is allowed free stationery and the use of text books to the value of $10.00 a year. He pays no tuition fees to the University. If he graduates from any department of the University while a member of the cadets corps he is allowed to retain his text-books.

Cadets who are members of the military band receive the same allowances as State cadets.

Any cadet who is absent without leave for more than ten days will be dropped from the rolls of the division of Military Science. He cannot re-enter the University without special permission.

SPECIAL REWARDS FOR MILITARY EXCELLENCE.

The names of the most distinguished cadets of the graduating class are sent to the Adjutant General of the Army and to the Adjutant General of the State.

All graduates of the Military Division are eligible, within five years after graduation, to commissions as first lieutenants in the Organized Militia of the State, without examination.

The State Board of Regents offers the following medals as special rewards for excelence in military training:

(1) To the cadet having the highest record for shooting on the University Rifle team, a gold medal; (2) To the cadet having the second highest record for shooting on the University Rifle Team, a silver medal; (3) To the cadet having the highest aggregate score at Company Team Rifle Competition, a gold medal; (4) To the cadet having the record for Military Training and Discipline, a gold medal; (5) To the cadet who shall write the best essay on preparation against war, fifty dollars.

Through the kindness of Mr. George C. Baker, of Morgantown, a prize of $15.00 in gold is offered to the best trained private in the corps and $10.00 for the second best private. Both the military record for the year and the marks in the competitive drills of commencement week will be used in determining the award.

ARMORY.

The Armory (60 by 120 feet) is used as a drill hall during inclement weather. This building is the home of the cadet corps, and all entertainments, given by them are held therein, under the supervision of the Commandant of Cadets.

MILITARY BAND.

A military band of sixty pieces is maintained as a part of the Cadet Corps. Band instruments are furnished by the Government and instruction is given in band music. Band cadets are also instructed in military drill to include the school of the soldier and of the squad.

ADMINISTRATION AND INSTRUCTION.

For the purpose of administration and drill the cadet corps is organized as a Battalion of infantry: Field, Staff, Band, and four companies.

The work in military science is taken in connection with other University work, and requires about four hours each week. The course of instruction is intended to fit all who graduate therein to perform efficiently the duties of officers in the Officers' Reserve Corps, the Organized Militia of West Virginia, or of volunteers. The winter months are devoted to theoretical instruction in tactics and other military subjects, together with practical instruction in drill and in gallery practice.

COURSES OF INSTRUCTION.

The following courses in military science and tactics are offered. All instruction is under the supervision of the commandant of cadets who is assisted by the senior cadet officers.

FRESHMAN YEAR—BASIC COURSE FOR ALL ARMS.

Subject.	Theory Hrs.	Practice Hrs.
Organization	½	1
2. Military Courtesy and Discipline	1	3
3. Drill		
Close and Extended Order Drill		
1. School of the Soldier 2. School of the Squad 3. School of the Platoon 4. Company & Battalion	10	25
Ceremonies		5
Marching		4
4. Care and Handling of Arms and Equipment	1	10
5. Small Arms Firing	2	12
1. Preliminary Instruction		
2. Pointing and Aiming Drills		
3. Sighting Drills & Exercises		
4. Gallery Practice		
6. Personal Hygiene, First Aid and Sanitation	2	2
7. Interior Guard Duty	2	3
8. Minor Tactics	½	5
1. Advance Flank and Rear Guards		
2. Outposts		
3. Patrols		
4. Approach Marches and Deployments		
5. Combat		
9. Morale	2	
10. Physical Training	—	—
11. General	17	
Total	21	17	70—Grand Total 108

SOPHOMORE YEAR—BASIC COURSE FOR ALL ARMS.

Subject.	Theory Hrs.	Practice Hrs.
1. Organization	½	1
2. Military Courtesy and Discipline		2
3. Drill		
Close and Extended Order Drill		
1. School of the Soldier		
2. School of the Squad		
3. School of the Platoon	5	12
4. School of the Company		
5. School of the Battalion		
Ceremonies		5
Marching		4
4. Care and Handling of Arms and Equipment	1	10
5. Small Arms Firing	2	12
1. Preliminary Instruction		
2. Pointing and Aiming Drills		
3. Sighting Drills		
4. Gallery Practice		
5. Preliminary Instruction Pistol		
6. Pistol Practice		
7. Musketry		
6. Personal Hygiene, First Aid and Sanitation	0	2
7. Interior Guard Duty		2
8. Minor Tactics	½	5
1. Advance Flank and Rear Guards		
2. Outposts		
3. Patrols		
4. Approaches, Marches and Deployments		
5. Combat		
9. Morale	1	
10. Physical Training		
11. Liaison for all arms	2	
12. Topography and Map Reading	2	1
13. Signalling		2
Totals	14	58—Grand Total 72

SOPHOMORE YEAR—INFANTRY SPECIAL

Subject.	Theory Hrs.		Practice Hrs.	
14. Drill				
Close and Extended Order School of the Soldier School of the Squad School of the Platoon School of the Company			9	
Bayonet			4	
Hand Grenade			4	
15. Field Engineering	4		2	
16. Orders and Messages	1		2	
17. General		10		
Totals	5	10	21	Grand Total 36

SOPHOMORE YEAR—ENGINEER SPECIAL

Subject.	Theory Hrs.	Practice Hrs.	
14. Military Map Making and Map Reading		12	
15. Organization	4		
16. Military Bridges and River Crossings	6		
17. Fortification	6		
Camouflage Trenchfire and Communication Accessories, Revetment, Observation Posts, etc. Machine Gun Emplacements Obstacles Shelter Organization of the Ground			
18. Roads and Communications, Opening up New Communications, Repair of Worn and Shell Torn Roads	8		
Totals	24	12	Grand Total 36

JUNIOR YEAR—ADVANCED COURSE FOR ALL ARMS.

Subject.	Theory Hrs.		Practice Hrs.	
1. Camp Sanitation, Care of Troops in Field	1		0	
2. Minor Tactics	7		20	
1. Advance Guards				
2. Outposts				
3. Patrols				
4. Approach Marches and Deployments				
5. Combat of Small Units				
6. Orders and Messages				
7. Small Map Problems				
3. Liaison for all Arms	2			
4. Topography	2		6	
5. Field Engineering	2			
1. Tasks and Working Parties				
2. Hasty Entrenchments				
3. Obstacles				
4. Material				
6. Law	10			
1. Common				
2. Military				
7. Military Policy	4			
8 General		18		
Totals	28	18	26—Grand Total	72

JUNIOR YEAR—INFANTRY SPECIAL

Subject.	Theory Hrs.	Practice Hrs.
Close and Extended Order Drill Automatic Rifles Rifle Grenades 37 m/m Guns Light Mortars Machine Guns	6	30
Ceremonies		5
Marching		4
10. Care and Handling of Arms and Equipment		10
11. Small Arms Firing	2	12
1. Preliminary Instruction 2. Pointing and Aiming Drills 3. Sighting Drills 4. Gallery Practice 5. Coaching. 6. Automatic Rifles 7. Rifle Grenades		
12. Personal Hygiene, First Aid and Sanitation	2	3
13. Interior Guard Duty	2	3
14. Topography		8
15. Field Engineering	2	8
16. Orders and Messages		2
17. Military Courtesy and Discipline	1	3
18. Minor Tactics		5
1. Advance Flank and Rear Guards 2. Outposts 3. Patrols 4. Approach Marches and Deployments 5 Combat		
Totals	15	93—Grand Total 108

JUNIOR YEAR—ENGINEER SPECIAL

Subject.	Theory Hrs.	Practice Hrs.
9. Military Map Making and Map Reading		12
10. Light Railways Location, Construction, Maintenance Operation	4	
11. Explosives, Demolitions and Mine Warfare	4	
12. Fortifications	16	
13. Academic Engineering Courses of Military Value	72	
Totals	96	12—Grand Total 108

Subject.	Theory Hrs.	Practice Hrs.	
1. Minor Tactics		22	
1. Combat of Small Units			
2. Scouting and Patrolling			
3. Flank Guards			
4. Detached Posts			
5. Rear Guards			
6. Outposts			
2. Topography		7	
3. Field Engineering	8		
1. Nomenclature and Construction of Trenches			
2. Trench Equipment and Expedients			
3. Obstacles			
4. Observation Posts			
5. Camouflage			
6. Bridges			
7. Explosives and Demolitions			
8. Cordage			
4. Company Administration	5		
1. Military Correspondence			
2. Company Records and Returns			
3. Property Responsibility			
4. Accounting for Company Funds			
5. Duties and Responsibilities of Young Officers in Management of Men			
5. Military Policy, History, Economics	6		
6. Military Law	5		
1. Courts Martial			
2. Rules of Land Warfare			
7. Hippology	4		
8. General		15	
Totals	28	15	29—Grand Total 72

SENIOR YEAR—ENGINEER SPECIAL

Subject.	Theory Hrs.	Practice Hrs.
9. Military Map Making and Map Reading		12
10. Functions and Staff Relations of Engineers with Particular Relations to Special Engineer Services	4	
11. Map Problems Involving Engineer Problems encountered during war	7	
12. Terrain Exercises involving Engineer Problems encountered during war		8
13. Organization and Administration of Engineering Projects	1	
14. Thesis on Military Engineering Subjects	4	
15. Academic Engineering Courses of Military Value	72	
Total	88	20—Grand Total 108

SENIOR YEAR—INFANTRY SPECIAL

Subject.	Theory Hrs.	Practice Hrs.
9. Infantry	10	20
Close and Extended Order Drill		
Tactical Exercises		
Musketry		
Ceremonies		5
Marching		4
10. Care and Handling of Arms and Equipment		10
11. Small Arms Firing	2	12
1. Preliminary Instruction		
2. Pointing and Aiming Drills		
3. Sighting Drills		
4. Gallery Practice		
5. Coaching		
6. Automatic Rifles		
7. Rifle Grenades		
8. Pistol Practice		
12. Personal Hygiene, First Aid and Sanitation	1	2
13. Interior Guard Duty	2	3
14. Topography and Map Reading		8
15. Orders and Messages	1	2
16. Tactical Walks		16
17. Military History		10
Total	26	82—Grand Total 108

DEGREES, DIPLOMAS AND PRIZES

Forty-second Annual Commencement, June 19, 1919.

CANDIDATES FOR DEGREES

1920

MASTER OF ARTS

MENDER THOMAS BRUNETTI . . . . . CURWENSVILLE, PA.
A. B., West Virginia University, 1917

CLAIRE BEATRICE FISHER . . . . . REYNOLDSVILLE, PA.
A. B., West Virginia University, 1919

EVA MYRTELLE FLING . . . . . TANNER
A. B., West Virginia University, 1911

GREEK SAYRE . . . . . MORGANTOWN
A. B., West Virginia University, 1918

MASTER OF SCIENCE

HAROLD JAMES BARRETT . . . . . CAMERON
A. B., West Virginia University, 1919

CHARLES BYRON JOLLIFFE . . . . . MORGANTOWN
B. Sc., West Virginia University, 1915

CIVIL ENGINEER

MILTON DEWITT FISHER . . . . . WASHINGTON, D. C.
B. S. C. E., West Virginia University, 1912

BACHELOR OF ARTS

EFFIE KATHERINE ANDERSON . . . . . MANNINGTON
MABEL IRENE BARNES . . . . . FAIRMONT
JEAN GERTRUDE BILLINGSLEA . . . . . FAIRMONT
JOHN PAUL BOGGESS . . . . . CLARKSBURG
LINNIE BRAND . . . . . MORGANTOWN
BLANCHE DALE BROADWATER . . . . . BELINGTON
ROBERT LUTHER BROCK . . . . . MORGANTOWN
HAZEL ELIZABETH CAMPBELL . . . . . DAVIS
JEREMIAH WILSON COLE . . . . . CAMERON
VERNON CLAY COMPTON . . . . . KEYSER
RACHEL AGNES COOGLE . . . . . MORGANTOWN
DOROTHY MCCOY CRANE . . . . . MORGANTOWN
HARRY RAYMOND CRONIN . . . . . RICHWOOD
ELIZABETH ROBB CUDDY . . . . . ELKINS
TINA BELLE DEBERRY . . . . . TERRA ALTA
CHARLES EDWARD DERBYSHIRE . . . . . HUNTINGTON
CLARA BELLE DRAKE . . . . . MANNINGTON
GEORGE ANDREW FEDERER, JR. . . . . MORGANTOWN
KATHLEEN BING FERGUSON . . . . . HUNTINGTON

CARRIE KATHRYN FLEMING	GRAFTON
VIRGIL LEWIS FLINN	RAVENSWOOD
ANGIE ALABAMA FRIEND	MORGANTOWN
SIDNEY ROSS GOULD	CUMBERLAND, MD.
JAMES MORFORD GUIHER	SMITHFIELD, PA.
BEATRICE LORRAINE HALL	MONONGAH
WEST HARDY	MORGANTOWN
MAUDE FRANCES HARPER	PARSONS
THETA HARRISON	MORGANTOWN
LUCILE VIRGINIA MORGAN HAYES	GLENVILLE
HAROLD CLARE HESS	MANNINGTON
WILLIAM DANIEL HIMES	SHEPARDSTOWN
ELIZABETH STEWART HOGE	MORGANTOWN
WENDELL WEBSTER HOOVER	WEBSTER SPRINGS
EUNICE SNYDER HUDSON	MORGANTOWN
FLORENCE ELIZABETH HUFFNER	CAMERON
JESSE MILLER JACO	MORGANTOWN
DOROTHY DELMONDE JONES	BELINGTON
ALBERT WILLIAM LAAS	BENWOOD
MARY LARGENT	PAW PAW
THOMAS FREDERICK LOWRY	PADEN CITY
GERTRUDE MARTIN	MORGANTOWN
MARY MARTHA MARTIN	LEWISBURG
ROSARII MARIE MATHESON	MORGANTOWN
MARGARET ETHEL MCCONNELL	MORGANTOWN
NOLA ALICE MEREDITH	MORGANTOWN
HELEN ELIZABETH MISH	BUNKER HILL
WALTER HARRISON MORAN	FAIRMONT
KAZUMA NAGANO	TAKAOKA, JAPAN
MAE NEWMAN	HUNTINGTON
ELSIE MAE NORMAN	SPENCER
NOLIE LEE PARRISH	MORGANTOWN
MARGARET GRACE POWELL	MORGANTOWN
AGNES LOUISE PRICE	MARLINTON
MARGARET RANDOLPH PRICE	MARLINTON
OTELLA BEATRICE PRICE	MORGANTOWN
FRED WILTON REED	PROCIOUS
HAROLD ALSTON RICE	BERKELEY SPRINGS
CECIL ORVAL RIGGS	MOUNDSVILLE
IRA ERRETT RODGERS	BETHANY
CARLTON CUSTER SANDERS	PHILIPPI
FLOYD MCKINLEY SAYRE	RIPLEY
JAMES DONALD SISLER	MORGANTOWN
WILLIAM LEROY SNEDEKER	WHEELING
ERWIN BOWMAN STONE	MORGANTOWN
HELEN GOULD STURGISS	MORGANTOWN
MARIE THOMPSON	MORGANTOWN
LORENTZ STEELE TROTTER	MORGANTOWN
ISAAC LINZA VAN VOORHIS	VAN VOORHIS
HARRY STREIT WALKER	WINONA
L. B., West Virginia University, 1916	
BAHNIE CARMEL WEDEKIND	ELKINS
GEORGE CECIL WEIMER	PORT ROYAL, PA.

ELLIS BURTON WHALEY . . . . . FINCH
MARY ELIZABETH WILLIAMS . . . . . MOUNDSVILLE
HERMAN EVANS WILSON . . . . . GRAFTON
BEATRICE MAUD WILT . . . . . ELKINS
FRANK COIN WIMER . . . . . ELKINS
ALDEN RAYMOND WINTER . . . . . BRIDGEPORT
JOY ZEARLEY . . . . . MORGANTOWN
JANET FLORA ZIMMERMANN . . . . . MORGANTOWN

BACHELOR OF SCIENCE
(Major in Medicine)

RUSSELL BROOKS BAILEY . . . . . WESTON
LYSLE ROGERS EVERHART . . . . . KEYSER
PATRICK HENRY GARRETT . . . . . MOUNT HOPE
OLIN BURR HALL . . . . . MORGANTOWN
ROBERT DOVE HARMAN . . . . . RIVERTON
ARLETT BRYAN HARTMANN . . . . . MORGANTOWN
WILLIAM EVERETT HILL . . . . . MIDDLEBOURNE
HERMAN JACK HOROWITZ . . . . . NEW YORK CITY
DAVID MORRISON JOHNSON . . . . . KEYSER
THOMAS MICHAEL KLUG . . . . . PROCTOR
CLAUDE AUBRA LATHEM . . . . . RAVENSWOOD
SYDNEY LEVIN . . . . . FAIRMONT
JAMES ROBINSON MCCLUNG . . . . . NITRO
WILLIAM BYRNE MORRISON . . . . . SUTTON
JULIUS FLOYD MORROW . . . . . WEST ALEXANDER, PA.
LESTER OURS . . . . . PETERSBURG
JOHN EDWARD PAYNE . . . . . CLARKSBURG
DONALD MONROE PFOST . . . . . SPENCER
GEORGE NEWCOMER RIFFLE . . . . . MCCLELLANDTOWN, PA.
SAMUEL FORD TALBOTT . . . . . MORGANTOWN
JOHN OTTO THEISS . . . . . RAVENSWOOD

BACHELOR OF LAWS

HERBERT STEPHENSON BOREMAN . . . . MIDDLEBOURNE
LLOYD CECIL ENEIX . . . . . WHEELING
HAROLD MICHAEL GARRETT . . . . . BRIDGEPORT
A. B., West Virginia University, 1918
OKEY PAUL KEADLE . . . . . WILLIAMSON
KARL BYRON KYLE . . . . . CLARKSBURG
MARTIN WARD LANHAM . . . . . GRAFTON
B. S., Virginia Wesleyan College, 1912
EUGENE HOMER LONG . . . . . BLUEFIELD
HOWARD NELSON LUCKEY . . . . . CHARLESTON
FRED JEFFERSON MCCOY . . . . . SISTERVILLE
LLOYD DANIEL MARTIN . . . . . CLARKSBURG
A. B., West Virginia University, 1917
DAVID FINNEY SHEETS . . . . . HUNTINGTON
CLARK MONROE THORNTON . . . . . PRINCETON
CHARLES SAMUEL TRUMP . . . . . MARTINSBURG
WILLIAM CAMPBELL TURLEY . . . . . LOGAN
WILLIAM WALTER WALTERS . . . . . CLARKSBURG
ERNEST EMILE WINTERS, JR. . . . . HUNTINGTON

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

GLENN FRANK ALLEN	PARKERSBURG
LYMAN COOK BRADLEY	BALTIMORE, MD.
DONALD RODERICK DEWAR	PARKERSBURG
DAVID MARCELLUS HAMMOND	MOUNDSVILLE
OLEY FOSTER HEDRICK	BRUSHY RUN
JOHN BASIL LATTERNER	MORGANTOWN
CHARLES LEONARD LEWIS	CHARLESTON
ALLAN HUNTER MCCARNES	MIDDLEBOURNE
HARRY MCGRAW	FOLLANSBEE
ROBERT PATTON WHITE	CLARKSBURG

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

EDWIN BJORNSON	MORGANTOWN
HERBERT GRADEN HEADLEE	NEW MARTINSVILLE

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

WILLIAM CURTIS FISHER	MORGANTOWN
PAUL DANE MCDONALD	FLEMINGTON
RALPH JENNINGS STOKER	MORGANTOWN
HOY JAY WALLS	MORGANTOWN

BACHELOR OF SCIENCE
(Major in Engineering)

BRADFORD NOYES, JR.	CHARLESTON

BACHELOR OF SCIENCE IN AGRICULTURE

ROBERT ETHAN ALLEN	MORGANTOWN
ERVIN DORSEY	SUMMERSVILLE
WILLIAM SPURGEON DUNN	BECKLEY
FRANK ARNETTE ICE	FAIRMONT
ELVA VIRGINIA KELLER	MORGANTOWN
RUSSELL LOWELL LAW	LAWFORD
JOSEPH GUY LEIDIG	MORGANTOWN
DANA TRESCOTT MOORE	MORGANTOWN
MONT FRANCIS MORGAN	RAVENSWOOD
MAURICE EARLE PHILLIPS	FRENCH CREEK
CHARLES EDWARD POTTER	BOZEMAN, MON.
FRANK WARRICK SHOWMAN	MORGANTOWN
HERBERT HUDSON THOMPSON	SPENCER
CHARLES VINYARD WILSON	LEWISBURG

BACHELOR OF SCIENCE IN HOME ECONOMICS

ANNIE LENA COKELEY	PENNSBORO
EVA DAY COMPTON	KEYSER
FRANCES PRIDE FITZGERALD	BLUEFIELD
XANNA BELLE GIBSON	SUTTON
MEARLE ELLEN HARDESTY	MORGANTOWN
NORMA RUTH BARRETT HILL	MIDDLEBOURNE

MARY ESTHER JOLLIFFE	MORGANTOWN
DOROTHY KIMMEL	GRAFTON
VICTORIA ELECTA MCGOVRAN	CHARLESTON
VIRGINIA LOUISE MCKINLEY	MORGANTOWN
MYRTLE ELLEN MICHAEL	FARMINGTON
EDNA MARGARET MILLER	FAIRMONT
MAUDE ALEXANDER PATTERSON	MORGANTOWN
MAY EULA PRICHARD	FAIRMONT
SARA ALTA REEVES	MORGANTOWN
KATHRYN VIRGINIA SCOTT	CHARLESTON
MAYME LUCINDA TWYFORD	WEST UNION

PHARMACEUTICAL CHEMIST

IDA FITZHUGH LIMERICK	MORGANTOWN
VERNA LILLIAN WELLS	MORGANTOWN

GRADUATE PHARMACIST

FRANCKE FULCHER FOX	BLUEFIELD

ARTIST'S DIPLOMA, VOICE

ALMENA JOSEPHINE BUNCE	FRANKLIN, PA.
ALICE VIRGINIA SHAW	MORGANTOWN

ARTIST'S DIPLOMA, PIPE ORGAN

SARA ELVIRA WILLIAMS	MORGANTOWN

ARTIST'S DIPLOMA, PIANO

VERDIE ELIZABETH GENEVIEVE CRONIN	MORGANTOWN
CECELIA MABEL LAZZELLE	MORGANTOWN
HENRY CHARLES STUMP	YOE, PA.

CERTIFICATE IN PUBLIC SCHOOL MUSIC

HELEN JOSEPHINE CROWL	FAIRMONT
HELEN MAY DEVORE	CHANUTE, KANSAS
EVA DALE HARTLEY	FAIRMONT
ALICE VIRGINIA SHAW	MORGANTOWN
MARY MARJORIE STURM	VIROPA

ARTIST'S DIPLOMA, PIANO AND PIPE ORGAN

MARY GEM HUFFMAN	PARKERSBURG

PRIZES AND HONORS

First:—MELVIN C. BAKER, *Freshman*	ALBRIGHT
Second:—GLADYS EDMONDSON, *Sophomore*	MORGANTOWN
JOHN WITHERS HEREFORD, *Freshman*	HOGSETT

Tax Commission Prize

MARION ROCKAFELLER HERSMAN, *Sophomore*	GRANTSVILLE

Phi Beta Kappa

RACHEL AGNES COOGLE	MORGANTOWN
EUNICE SNYDER HUDSON	MORGANTOWN
CARRIE KATHRYN FLEMING	GRAFTON
AGNES LOUISE PRICE	MARLINTON
WALTER HARRISON MORAN	FAIRMONT
ALBERT WILLIAM LAAS	BENWOOD
HAROLD CLARE HESS	MANNINGTON
NOLIE LEE PARRISH	MORGANTOWN
JAMES MORFORD GUIBER	SMITHFIELD, PA.

ADDRESS LIST OF FACULTY AND STAFF

NOTE: The date following the name indicates the year of appointment of the present position. When a second date is given it indicates the year of first appointment on the University staff. The telephone number follows the Morgantown street address.

Abbott, Elizabeth B.; Matron of the Woman's Hall; 1919; Woman's Hall; 516R.

Alger, Kathryn, A.B., B.S.Agr. (W. V. U., 1917); in charge of Girls' Club Work, Agricultural Extension Staff; 1919; 1917; 120 High Street; 1204. Resigned, December 20, 1921.

Allen, Edward Switzer, Ph.D. (Harvard, 1914); Assistant Professor of Mathematics; 1919; 639 Grand Street; 39J.

Allen, Howard Bushnell, M.S. (Cornell, 1920); Assistant Professor of Agricultural Education; 1920; 151 Holland Avenue; 861W.

Ambler, Charles Henry, Ph.D. (Wisconsin, 1908); Professor of History; 1920; 1917; 471 Spruce Street.

Ammons, Nellie Perrel, A.B. (W. V. U., 1917); Instructor in Botany; 1920; 547 Front Street; 221M.

Andrews, Edgar Lewis, B.S.Agr. (Cornell, 1898); Associate Professor of Poultry Husbandry and Assistant Poultryman, Experiment Station; 1917; 1913; East Willey Street; 880M.

Angelo, Ernest, B.S.Agr. (W. V. U., 1919); Instructor in Horticulture and Assistant Horticulturist in the Experiment Station; 1919; 23 Overhill Street; 1392J.

Anthony, Ernest Lee, M.S. (University of Pennsylvania, 1914); Professor of Dairy Husbandry and Head of the Department of Dairy Husbandry in the Experiment Station; 1919; State Dairy Farm; 514R.

Arkin, Aaron, Ph.D. (Chicago, 1913); M.D. (Rush Medical College, 1912); Professor of Pathology and Bacteriology; 1913; 519 Front Street; 267.

Armstrong, Robert Allen, A.M. (Harvard, 1903); L.H.D.; Professor of English Language and Literature; 1903; 1893; 732 University Terrace; 29R.

Arnett, Lonna Dennis, Ph.D. (Clark University, 1903); Librarian; 1910; 79 Grant Avenue; 368R.

Atkeson, Thomas Clark, Ph.D. (Central Normal College, 1891); Professor of Animal Husbandry, Emeritus; 1914; Washington, D. C.

Atwood, Horace, M.S.Agr. (Cornell, 1893); Poultryman, Experiment Station; 1916; 1897; 410 Charles Ave.; 455J.

Bancroft, George Ross, Ph.D. (Yale, 1917); Associate Professor of Chemistry; 1920; 23 Lincoln Avenue.

Barbe, Waitman, A.M. (W. V. U., 1890); Litt.D.; Director of the Summer School and Professor of English; 1911; 1895; 445 High Street; 348R.

Barns, Helen Virginia; Student Assistant in Chemistry; 1920; 552 Spruce Street; 284W.

Beers, Clayton Lawrence, Ph.G. (Ferris Institute, 1917); Assistant in Pharmacology; 1920; 66 Jackson Street.

Bell, Gilmer M., Captain, Infantry, U. S. A.; Assistant Professor of Military Science and Tactics; 1920; 9 South Walnut Street.

Berg, Anthony, B.S. (Wisconsin, 1912); Assistant Plant Pathologist, Experiment Station; 1913: 291 Riverview Avenue; 711R.

Bergy, Gordon Alger, Ph.C., M.S. (Michigan, 1916); Associate Professor of Pharmacy; 1920; 1916; 308 Park Street.

Bibbee, Paul Cecil, Student Assistant in Zoology; 1920; 5 South Walnut Street; 400J.

Bickel, Charles Russell; Student Assistant in Chemistry; 1920; 149 Wilson Avenue; 1110J.

Bingham, Kathleen Graham; Secretary, College of Law; 1920; 264 McLane Avenue; 235W. Resigned, December 1, 1921.

Bishop, Charles Edward, Ph.D. (Leipsic, 1889); Professor of Greek Language and Literature; 1911; 151 McLane Avenue; 563W.

Black, Louis, Director of the School of Music; 1909; 253 McLane Avenue; 495.

Blandford, Robert Sprigg, Student Assistant in Library; 1920; 305 University Driveway.

Bledsoe, Rosewell Page, M.S. (Wisconsin, 19__); Professor Agronomy and Assistant Agronomist Agricultural Experiment Station; 1920; 732 Front Street. Resigned, January 1, 1921.

Boomsliter, George Paul, M.S. (Illinois, 1914); Professor of Mechanics; 1920; 48 Wilson Avenue.

Bonar, Martin Loxley, M.D. (Western Reserve, 1918); Professor of Pharmacology; 1920; 89 Washington Street; 683J.

Boughner, Jennie DeLawder, A.B. (W. V. U., 1912); Assistant Librarian; 1915; 392 Willey Street; 984J.

Bragonier, Arthur Taylor, B. S. C. E. (W. V. U., 1916); Instructor in Surveying; 1920; 118 Willey Street; 221J.

Bray, Charles McChesney, M.D. (Western Reserve, 1918); Assistant in Physical Diagnosis; 1919; New Dominion Building; 123.

Breck, Marion Florilla, M.S. (Wisconsin, 1920); Assistant Professor of Education and Home Economics; 1920; 591 Spruce Street; 345W.

Brooks, Chandler Linn, Superintendent of Buildings and Grounds; 1917; 394 Willey Street; 337R.

Brooks, Frank See, Instructor in Machine Design and Mechanical Drawing; 1920; 394 Willey Street; 188R.

Brown, Charles Kepler, Instructor in Mining (Extension); 1919; Wellsburg, W. Va.

Brown, Samuel Boardman, A.M. (W. V. U., 1886); Professor of Geology and Mineralogy; 1892; 1890; 640 High Street; 796J.

Brunetti, Mendor Thomas, A.M. (W. V. U., 1920); Instructor in French; 1920; 205 Willey Street.

Bunce, Almena Josephine; Student Assistant in Music; 1919; 45 Stewart Street; 783W.

Callahan, James Morton, Ph.D. (Johns Hopkins, 1897); Professor of History and Political Science and Dean of the College of Arts and Sciences; 1916; 1902; 136 Willey Street; 586J.

Callen, Alfred Copeland, E.M., M.S. (Lehigh 1909, 1911); Professor of Mining Engineering; 1917; 45 Jones Avenue; 754W.

Cannaday, Charles Benton, A.M. (Roanoke College, 1898); Professor of Latin; 1916; 1914; 12 Hagan's Avenue; 1167M.

Cantrall, Charles McKee, B.D., A.M. (Princeton 1910, 1912); D.D.; Professor of Philosophy and Psychology, 1919; 718 Grand Street; 481R.

Carl, William John; Instructor in Foundry Practice; 1920; 107 Green Street; 1042R.

Carlin, Leo, A.B., LL.B. (W. V. U. 1909, 1910); Asociate Professor of Law; 1920; 1916; 27 Wilson Avenue; 282R.

Cather, Carl Henry, B.S.M.E. (W. V. U., 1916); Instructor in Drawing; 1919; 1916; 257 McLane Avenue; 717M.

Cather, Harold Malcolm, B.S.M.E. (Texas A. and M. College); Instructor in Drawing; 1919; 284 Second Street.

Cavins, Lorimer Victor, A.M. (Harvard, 1910); Professor of Education; 1919; Huntington, W. Va. (Extension work during first semester).

Chidester, Floyd Earle, Ph.D. (Clark University, 1911); Associate Professor of Zoology; 1919; 24 Demain Avenue; 631J.

Chitwood, Oliver Perry, Ph.D. (Johns Hopkins, 1905); Professor of History; 1907; 312 Park Street; 683W.

Clark, Friend Ebenezer, Ph.D. (Johns Hopkins, 1902); Professor of Chemistry; 1914; 649 Spruce Street; 830R.

Cochrane, Thomas Joseph, B.S. (New Hampshire, 1919); Assistant Chemist, Agricultural Experiment Station; 1920; 26 Wilson Avenue.

Coffindaffer, Russell Smith; Student Assistant in Zoology; 1920; 805 High Street; 865R.

Colwell, Rachel Hartshorn, B.S., M.A. (Columbia, 1905); Professor of Home Economics; 1920; 1910; 87 Grant Avenue; 469.

Conaway, Mary Louise, A.B. (Rollins College, 1917); Secretary to the Dean of the College of Engineering; 1918; 698 High Street; 731M. Resigned March 1, 1921.

Conley, Crede Haymond; Student Asistant in Chemistry; 1920; 170 McLane Avenue; 1252.

Coulter, John Lee, Ph.D. (Wisconsin, 1908); Dean of the College of Agriculture and Director of the Experiment Station; 1915; 94 Beverly Avenue; 450R.

Cox, John Harrington, A.M. (Harvard, 1900); Professor of English Philology; 1904; 1902; 34 University Driveway; 563J.

Crane, Dee, Potato Specialist, Agricutural Extension Staff; 1917; North Front Street; 804J.

Crane, Harley Lucius, M.S.Agr. (W. V. U., 1918); Associate Professor of Horticulture and Associate Horticulturist, Experiment Station; 1920; 1914; 757 North Front Street; 134R.

Crawford, Adam; Instructor in Mining (Extension); 1920; Kingwood, W. Va.

Creech, Benjamin Franklin, B.S.Agr. (University of Kentucky, 1917); Livestock Specialist, Agricultural Extension Staff; 1919; North Spruce Street; 870J.

Dadisman, Andrew Jackson, M.S.Agr. (Cornell, 1914); Associate Professor of Rural Economics and Farm Management and Assistant in Farm Management, Experiment Station; 1916; 115 Beverly Avenue; 873J.

Darby, Arleigh Lee, A.M. (Waynesburg College, 1904); Professor of Romance Languages; 1920; 1910; 487 High Street; 833J.

Davies, Earl Claudius Hamilton, Ph.D. (Chicago, 1917); Associate Professor of Chemistry; 1920; 255 Richwood Avenue.

Davis, Roland Parker, M.C.E., Ph.D. (Cornell, 1908, 1914); Professor of Structural and Hydraulic Engineering, 1912; 1911; 16 Demain Avenue; 263J.

Deahl, Jasper Newton, Ph.D. (Columbia, 1906); Professor of Education; 1901; 414 Park Street; 660R.

Deatrick, Eugene Peyton, Ph.D. (Cornell, 1917); Associate Professor of Soils and Soil Technologist, Agricultural Experiment Station; 1921.

Dodd, David Rollin, B.S.Agr. (W. V. U., 1914); Agronomy Specialist, Agricultural Extension Staff; 1919; 39 Maple Avenue; 681W.

Dodds, Gideon Stanhope, Ph.D. (University of Pennsylvania, 1910); Associate Professor of Histology and Embryology, 1920; 1918; 519 Front Street; 267.

Donner, Max; Instructor in Violin; 1918; 258 McLane Avenue; 715W.

Eberhardt, Winfield, First Sergeant, Infantry U. S. A.; Assistant to the Professor of Military Science and Tactics; 1919; 659 Spruce Street; Relieved November, 1920.

Eiesland, John Arndt, Ph.D. (Johns Hopkins, 1898); Professor of Mathematics; 1907; 23 Demain Avenue; 317R.

Ezell, Belton Bonner, B.S.Agr. (Clemson College, 1908); Assistant Director in Charge of Livestock; Agricultural Extension Staff; 1919; 1914; 297 Grant Avenue.

Federer, George Andrew, Jr., A.B. (W. V. U., 1920); Assistant in Chemistry; 1919; 327 Smith Street; 528J.

Fishbeck, Dewey George, B.S.C.E. (Clarkson College of Technology, 1920); Instruction in Mechanics; 1921; 268 McLaine Avenue; 235M.

Fisher, Claire, A.M. (W. V. U., 1920); Instructor in Mathematics; 1920; 1918; 52 University Driveway; 124.

Fling, Eva Myrtle, A.B. (W. V. U., 1911); Instructor in Botany; 1919; 1917; 52 Stewart Street; 28.

Ford, Margaret, B.S.H.E. (Iowa State College); In charge Farm Women's Clubs; Agricultural Extension Staff; 1920; 580 Spruce Street.

Ford, Orfa Rex, B.S. (Salem College, 1915); Instructor in Physics; 1920; 300 Grand Street; 1171J.

Forman, Alexander Hardie, E.E. (W. V. U., 1908); M.M.E., Ph.D. (Cornell, 1909, 1912); Professor of Electrical Engineering; 1916; 1913; 53 Morris Street; 893M.

Frame, Nat Terry, A.B. (Colgate, 1899); Director of Agricultural Extension; 628 North High Street; 731J.

Frost, Elizabeth Dee, A.M. (Columbia, 1919); Instructor in English; 1919; 52 University Driveway.

Fuss, Chester George, Ph.C. (University of Michigan, 1920); Instructor in Pharmacy; 1920; 301 Park Street.

Garber, Ralph John, M.S. (Minnesota, 1917); Associate Professor of Agronomy and Associate Agronomist, Agricultural Experiment Station; 1920; 340 Park Street.

George, Enoch Franklin, Ph.D. (Ohio State University, 1920); Assistant Professor of Physics; 1920; 29 Lincoln Avenue; 173R.

Giddings, Nahum James, Ph.D. (Wisconsin, 1918); Professor of Plant Pathology, and Plant Pathologist Experiment Station; 1919; 1908; 36 University Driveway; 667M.

Gill, James Herbert, B.M.E., M.E. (Minnesota, 1892, 1894); Professor of Machine Construction; and Superintendent of Shops; 1920; 264 McLane Avenue; 235W.

Gnagey, William Oliver; Instructor in Machine Shop Practice; 1920; 10 DeMain Avenue.

Gourley, Joseph Harvey, M.S. (Ohio State University, 1915); Professor of Horticulture and Horticulturist of the Agricultural Experiment Station; 1920; 17 Euclid Avenue.

Gray, Harry Edward; Instructor in Mining (Extension); 1918; Beckley, W. Va. Resigned, January 8, 1921.

Gray, Thomas Davis, B.S. (University of Maryland, 1915); Specialist in Horticulture, Agricultural Extension Staff; 1920; 757 N. Front Street; 134R.

Grow, George Walter, B.S.M.E. (W. V. U., 1912); M.S. (Massachusetts Institute of Technology, 1916); Assistant Professor of Machine Design and Construction; 1914; 1912; 211 Wells Street.

Grumbine, Harvey Carson, Ph.D. (Munich, 1900); Assistant Professor of English; 1919; 23 Demain Street.

Grumbein, John Behny, M.M.E. (Cornell, 1914); Professor of Steam and Experimental Engineering; 1916; 1903; 260 McLane Avenue; 881J.

Hager, Buena Brand; Bookkeeper in the office of the Financial Secretary; 22 Bridge Street; 1156J.

Hall, Arthur Adams, B.S.M.E. (W. V. U., 1906); Associate Professor of Electrical Engineering; 1916; 379 Front Street; 1032J.

Hardman, Thomas Porter, M.A. (Oxford, 1914); Jur.D. (Yale, 1915); Professor of Law; 1919; 1913; 515 Grand Street; 559.

Hardy, Irvin, M.D. (College of Physicians and Surgeons, 1903); Clinical Professor of Minor Surgery; 1920; 1912; Cobun Avenue; 629J.

Hare, Alfred Jarrett, A.M. (W. V. U., 1902); Professor of Latin, and Secretary and Registrar of the University; 1898; 1889; 571 Spruce Street; 870W.

Hartley, Charles Henry, B.S.Agr. (W. V. U., 1917); Assistant Director, in Charge of Extension Schools and Exhibits; Agricultural Extension Staff; 1914; 5 Collins Ferry Road; 247J.

Hartman, George Edgar, A.B. (University of Cincinnati, 1917); Assistant Professor of Sociology; 1920; 264 McLane Avenue; 235W.

Hayes, Flora Ray, A.B. (W. V. U., 1909); Instructor in Theory and History of Music; 1910; 480 High Street; 967J.

Hayes, Leslie David, M.E. (Cornell, 1908); Professor of Machine Design and Construction; 1918; 728 University Terrace; 831R.

Hayman, Joseph Lester, B.S., Ph.C. (Michigan, 1919); Instructor in Pharmacy; 1919; 487 High Street.

Henderson, Harry Oram, M.S. (Pennsylvania State College, 1916); Assistant Professor of Dairy Husbandry; 1919; 1918; 68 Beverly Avenue; 1083J.

Hepworth, Marion Martha, B.S.; Assistant Director in Charge of Home Economics Extension, Agricultural Extension Staff; 1919; 1916; 580 Spruce Street; 349W. Resigned, January, 1921.

Hess, Edith Irene, B.S.H.E. (Iowa State College, 1919); Instructor in Home Economics; 1920; 621 Spruce Street; 947W.

Higby, Chester Penn, Ph.D. (Columbia, 1918); Assistant Professor of History; 1919; 334 Park Street; 1047J.

Hill, Hubert, M.S. (North Carolina, 1908); Associate Professor of Chemistry; 1920; 1910; 186 First Street; 474R.

Hill, Lawrence Benjamin, A.M. (Nebraska, 1907); Associate Professor of Education; 1918; 182 First Street; 235J.

Hite, Bert Holmes, M.S. (W. V. U., 1890); Chief Chemist, Experiment Station, and Professor of Agricultural Chemistry; 1895; 222 Pleasant Street; 1028.

Hodge, Willard Wellington, A.M. (Yale, 1914); Professor of Chemical Engineering; 1921; 268 McLane Avenue; 235M.

Hodgson, Joseph Ellis, Ph.D. (Johns Hopkins, 1910); Professor of Mathematics; 1913; 1912; 209 Grant Avenue; 254R.

Hofrichter, Cassius Howard, M.D. (Western Reserve, 1919); Associate Professor of Physiology; 1920; 89 Washington Street. Resigned, February 1, 1921.

Hoge, Elizabeth Stewart; A.B. (W. V. U., 1920); Assistant Librarian; 1919; 68 Beverly Avenue; 1083J.

Hopwood, Arthur Thomas; Student Assistant in Zoology; 1920; 111 Beverly Avenue; 247R.

Horsefall, Hazel, B.S. (Iowa State College, 1917); District Home Demonstration Agent, Agricultural Extension Staff; 1920; North Front Street; 804J.

Hudelson, Earl, A.M. (Indiana University, 1912); Professor of Secondary Education; 1920; 87 Grant Avenue; 469.

Hunker, Carrie Belle, Secretary to the Dean of the College of Arts and Sciences; 1920; 45 Stewart Street.

Jacobson, Carl Alfred, Ph.D. (Johns Hopkins, 1908); Professor of Chemistry; 1920; 219 Cedar Street.

Johnson, Agnes Chadbourn, A.B. (Boston University, 1912); Instructor in Public School Music; 1919; 259 Spruce Street.

Johnson, Elenore Montgomery, B.S. (Denison University, 1920); Assistant in Chemistry; 1920; 247 Willey Street.

Johnson, David Dale, A.M. (W. V. U., 1903); Professor of English; 1920; 1902; 305 Fayette Street; 979J.

Johnston, John Charles; Secretary to the Dean of the College of Agriculture and Chief Clerk Agricultural Experiment Station; 1914; 151 McLane Avenue; 995R.

Johnston, Ross Bradshaw, in Charge of University News Service; 1919; 19 Pennsylvania Avenue; 187M.

Jones, Clement Ross, M.E. (W. V. U., 1897); M.M.E. (Cornell, 1900); Dean of the College of Engineering and Professor of Power Engineering; 1911; 1895; 317 Willey Street; 205J.

Jones, Henry Craig, A.B., LL.B. (Harvard, 1903, 1906); Professor of Law and Dean of the College of Law; 1914; 206 Grant Avenue; 779R; On leave of absence until July 1, 1921, at Harvard University.

Kaplan, Benjamin Bernard, A.B. (Harvard, 1918); Assistant Chemist, Agricultural Experiment Station; 1920; 686 Grand Street; 481W.

Kay, Wilbur Jones, A.M. (Washington & Jefferson College, 1919); Professor of Public Speaking; 1919; 44 Wilson Avenue; 923W.

Kendrick, Willliam Henry, A.B. (W. V. U., 1916); Assistant Director of State Boys' Clubs; Agricultural Extension Staff; 1919; 1913; 144 Pleasant Street; 334J.

King, Benjamin Walter, A.M. (Harvard, 1917); Assistant Professor of Economics; 1917; 1911; Cheat Road, R. D. 3.

Knowlton, Harry Edward, B.S. (Michigan Agricultural College, 1912); Assistant Professor of Horticulture and Associate Horticulturist in the Experiment Station; 1919; 203 Fife Avenue.

Kunst, Frank Batson A.B. (W. V. U., 1906); Assistant Chemist, Experiment Station; 1901; Garlow Building; 1028.

Laas, Albert William, A.B. (W. V. U., 1920); Assistant Law Librarian; 1920; 149 Wilson Avenue; 1110J.

Lazzell, Charles Lester, A.B. (W. V. U., 1918); Assistant in Chemistry; 1919; 257 McLane Avenue; 717M.

Lazzell, Rufus Glenn; Student Assistant in Physics; 1920; 257 McLane Avenue; 717M.

Leith, Theodric Bryant, A.B. (Washington & Lee, 1916); Assistant Chemist Agricultural Experiment Station; 1919; 749 North Front Street.

Livesay, Edward Alexander, A.M. (University of Missouri, 1917); Professor of Animal Husbandry and Specialist in Animal Husbandry in the Agricultural Experiment Station; 1919; 234 Prospect Street.

Lorentz, Mary Belle, Assistant Secretary, Dean's Office, College of Engineering; 1918; Woman's Hall.

Lueder, Charles Augustus, D.V.M. (New York State Veterinary College, 1902); Professor of Veterinary Science; 1920; 1908; 752 North Front Street; 804R.

Lytle, Clara, A.B. (W. V. U., 1910); Instructor in English; 1919; 230 Kirk Street; 1204. (On leave of absence, second semester).

McIlvaine, Theodore Clinton, B.S.Agr., M.S. (Pennsylvania State College, 1915, 1916); Assistant Agronomist, Experiment Station; in Charge of Agricultural Sub-station, Huntington, W. Va.

McKee, Louis Alan; Assistant Law Librarian; 1920; 112 Cedar Street; 1164R.

Maclay, Eleanor Reed, B.S. in Educ. (University of Missouri, 1920); Instructor in Home Economics; 1920; 686 Grand Street: 481W.

McGuire, Frances Folsom, M.A. (Teachers' College, 1917); District Home Demonstration Agent, Agricultural Extension Staff; 1921; 580 Spruce Street; 349J.

McKee, Mildred Barnett, Stenographer to the President; 1920; 549 Price Street.

Martin, Gertrude, A.B. (W. V. U., 1920); Instructor in German; 1920; 285 Second Street; 717J.

Mason, Ralph Louis; Specialist in Poultry, Agricultural Extension Staff; 1919; 757 North Front Street; 134R.

Mestrezat, Walter Alexander; Chief Musician, Cadet Corps, and Instructor in Band Music; 1901; 57 Bridge Street; 1157J.

Milner, Mary Alice, B.S.H.E. (Ohio State, 1917); Instructor in Home Economics; 1920; 261 Willey Street.

Molby, Fred A., Ph.D. (Cornell, 1910); Associate Professor of Physics; 1920; 506 North High Street.

Moler, Raleigh Miller, B.S. in Med. (W. V. U., 1920); Assistant in Bacteriology and Pathology; 1920; 430 Spruce Street; 388R.

Montgomery, Allen Guy, A.B. (W. V. U., 1917); Instructor in Mathematics; 1920; 1919; 284 Second Street.

Moore, Susan Maxwell, A.B. (W. V. U., 1909); Dean of Women and Instructor in Piano; 1903; Woman's Hall; 9775.

Morgan, Mont Francis, B.S.Agr. (W. V. U., 1920); Assistant Agronomist, Agricultural Experiment Station; 1920; 475 High Street; 322.

Morris, Russell Love, C.E. (W. V. U., 1898); Professor of Railway and Highway Engineering; 1903; 1895; 294 Grand Street; 621J.

Morris, Samuel, M.A. (Ohio State, 1908); Associate Professor of Chemistry; 1920; 1916; 17 Demain Avenue; 362W. (On leave of absence).

Morris, Samuel John, M.D. (College of Physicians and Surgeons, 1912); Professor of Anatomy; 1920; 1912; 83 Kingwood Street; 696J.

Morris, Stanley Clarence, A.B. (Marietta, 1914); Assistant Law Librarian; 1919; 151 McLane Avenue; 563W.

Morrow, Julius Floyd, B.S. (W. V. U., 1920); Assistant in Anatomy; 1920; 69 Beverly Avenue; 690M.

Morse, Withrow, Ph.D. (Columbia, 1908); Professor of Physiology and Physiological Chemistry; 1920; 1918; Collins Ferry Road; 555R.

Mumma, Harlan Leslie; (U. S. Military Academy, 1916); Captain United States Army, Professor of Military Science and Tactics and Commandant of Cadets; 1919; 390 Willey Street.

Murray, Thomas Jefferson, M.S. (Purdue, 1915); Associate Professor of Bacteriology and Hygiene; 1920; 188 Spruce Street; 739R.

Neff, Charles Thompson, Jr.; Student Assistant in Chemistry; 1920; 170 Spruce Street; 1252.

Nelson, Roy Ezekiel, Instructor in Mining Engineering; 1921.

Norris, William, Jr., Instructor in Mining (Extension); 1920; McDowell, W. Va.

Osborne, George Edward, S.J.D. (Harvard Law School, 1920); Assistant Professor of Law; 1920; 206 Grant Avenue; 779R.

Owens, Arthur Edward, B.S. (Syracuse, 1918); Instructor in Chemistry; 1920; 16 Forest Avenue.

Odland, Theodore Edward, M.S. (Minnesota, 1920); Assistant Professor of Agronomy; 1921.

Patch, Roland Harrison, M.S.Agr. (Cornell, 1916); Assistant Professor of Horticulture and Assistant Horticulturist, Experiment Station; 1917; 186 First Street; 378J.

Peairs, Leonard Marion, B.S.Agr., M.S. (Kansas Agricultural College, 1905, 1907); Professor of Entomology and Research Entomologist; Experiment Station; 1913; 1912; 50 Jones Avenue; 895R.

Perry, Enos Johnson, B.S.Agr. (Penn. State, 1916); Specialist in Dairying; Agricultural Extension Staff; 1920; 66 Beverly Avenue; 474J.

Pettigrew, Helen Purinton, A.B. (W. V. U., 1916); Instructor in English; 1920; 1919; 85 Grandview Avenue; 973R.

Pollock, Rebecca Luella, A.M. (Columbia, 1916); Assistant Professor of English; 1920; 1916; 239 Prospect Street; 184J.

Power, Edward, First Sergeant, Infantry U. S. A.; Assistant to the Professor of Military Science and Tactics; 1920; 290 Wiles Street.

Preiser, Benjamin; Student Assistant in Chemistry; 1920; Fleming Building.

Prettyman, Hugh Willard, B.S.Agr. (W. V. U., 1917); Specialist in Horticulture; Agricultural Extension Staff; 209 Wells Street; 604J.

Provost, Antonio Joseph; B.L. (Laval University, 1888); Assistant Professor of Romance Languages; 1918; 276 Grand Street.

Purinton, Bertha Browning, A.M. (W. V. U., 1902); Assistant to the Dean of Women; 1919; 247 Willey Street; 258.

Purinton, Daniel Boardman, Ph.D. (University of Nashville, 1892); LL.D. (Denison University, 1889); President and Professor of Philosophy, Emeritus; 1911; 1873; 89 Grandview Avenue; 793R.

Raines, Morris Abel, A.M. (Columbia University, 1917); Instructor in Botany; 1920; 16 Demain Avenue; 163J.

Reed, Perley Isaac, Ph.D. (Ohio State, 1916); Assistant Professor of English; 1920; 456 High Street; 437R.

Reed, Mildred Louise; Student Assistant in Music; 1920; 242 Jackson Avenue.

Reese, Albert Moore, Ph.D. (Johns Hopkins, 1900); Professor of Zoology; 1907; 312 Park Street.

Reynolds, Vivian Gordon; Assistant in Library; 1920; 1917; 511 High Street; 184W.

Rouzer, Paul Charles, B.S.Agr. (Wisconsin, 1912); Instructor in Agricultural Education; 1917; 120 Beverly Avenue.

Rufener, oLuis August, Ph.D. (Harvard University, 1915); Associate Professor of Economics; 1920; 53 Euclid Avenue.

Rumsey, William Earl, B.S.Agr. (Cornell, 1891); State Entomologist; Experiment Station; 1893; 415 Park Street; 671R.

Salter, Robert Mundhenk, M.S. (Ohio State, 1914); Associate Professor of Agronomy; 1919; 1915; 741 North Front Street. Resigned.

Sayre, Greek, A.B. (W. V. U., 1918); Assistant in English and History; 1918; 16 Overhill Street; 193W.

Schaber, Frederick Harry; Student Assistant in Library; 1920; 346 Grant Avenue.

Scheffel, Earl Read, M.S. (Denison University, 1908); Assistant Professor of Geology; 1919; 640 High Street; 796J.

Seaman, Raymer Egbert; Instructor in Woodworking and Foundry Practice; 1912; 86 Washington Street; 784J.

Sefton, Lily Bell, M.S. (Ohio State, 1917); Assistant Professor of Chemistry; 1920; 371 Front Street; 1082.

Shaffer, James Harvey, B.S.Agr. (W. V. U., 1921); Assistant Farm Economist, Agricultural Experiment Station; 1921; 3 Forest Avenue; 175R.

Shaw, Edward Lee, B.S.Agr. (Ohio State, 1902); Sheep Specialist, Agricultural Experiment Station Staff; 1917; North Front Street.

Sherwood, Everett Clifton, M.S. (Wisconsin, 1920); Specialist in Plant Pathology, Agricultural Extension Staff; 1920; 79 Grant Avenue; 368R.

Shriver, Allie Pauline; Student Assistant in the Library; 16 Warren Street; 1179J.

Simpkins, Cleveland Sylvester, A.B. (Oregon, 1916); Instructor in Zoology; 1920; 299 Park Street.

Simonton, James Wiggins, A.B. (Indiana, 1903); J.D. (Chicago, 1908); Professor of Law; 1917; 1914; 211 Grant Avenue; 881W.

Simpson, John Nathan, M.D. (Johns Hopkins, 1902); Dean of the School of Medicine and Professor of Physiology; 1912; 1902; 14 Willey Driveway; 244J.

Smith, Simeon Conant, A.M. (W. V. U., 1902); Professor of Rhetoric; 1920; 1899; On leave of absence.

Snee, Grace Martin; Instructor in Piano and Pipe Organ; 1903; 1898; 282 Fayette Street; 1147M.

Snow, Charles Chapman, A.M. (Columbia, 1915); Instructor in Chemistry; 1919; 465 High Street; 1074.

Spangler, Robert Clinton, A.M. (W. V. U., 1916); Assistant Professor of Botany, 1920; 1912; 13 Naomi Street.

Spiker, Claude Carl, A.M. (Chicago, 1916); Assistant Professor of Romance Languages; 1920; 50½ Maple Avenue; 787R.

Stansbury, Harry Adams, B.S. (W. Va. Wesleyan, 1915); Director of Athletics; 1917; 353 Wilson Avenue; 59.

Stathers, Madison, Ph.D. (Grenoble, 1905); Professor of Romance Languages; 1910; 1906; 288 Grand Street; 594W.

Steadman, Marja Brown, A.B. (Minnesota, 1913); Instructor in Public Speaking; 1920; 1919; 221 Lazear Lane; 150J.

Stearn, Allen Edwin, Ph.D. (Illinois, 1919); Assistant Professor of Chemistry; 1920; 279 Grand Street. Resigned, January 1, 1921.

Stearn, Esther Wagner, M.S. (Illinois, 1920); Assistant in Chemistry; 1920; 279 Grant Street. Resigned, January 1, 1921.

Stephenson, Roscoe Elmo, M.S. (Illinois, 1917); Assistant Soils Chemist, Agricultural Experiment Station; 1919; 264 McLane Avenue. Resigned, December 1, 1920.

Stewart, James Scott, M.S. (W. V. U., 1880); Professor of Mathematics, Emeritus; 1907; 1877; 146 Willey Street; 120R.

Stillman, Herman Deloss; Assistant in Woodworking; 1920; 10 Falling Run Street; 596J.

Stockdale, Charles Ellsworth, B.S.Agr. (W. V. U., 1916); Agricultural Editor; 1916; Morgantown.

Story, Hardy J., Master Sergeant, Corps of Engineers; Assistant to the Professor of Military Science and Tactics; 1919; Prospect Street.

Strickler, Laura, Secretary to the President; 1920; 351 Spruce Street; 112W.

Sutton, Luther Francis, B.S.Agr. (Wisconsin, 1912); Assistant Horticulturist in the Experiment Station, and Superintendent of Reymann Memorial Experiment Farm; 1917; 1912; Wardensville, W. Va.

Swenholt, Helmer, Captain, Field Artillery, U. S. A.; Assistant Professor of Military Science and Tactics and Commanding Officer of Engineer Unit; 1919; 752 Front Street.

Thomas, Jacob Earle, M.D. (St. Louis University School of Medicine, 1918); Associate Professor of Physiology; 1920; 19 Forest Avenue.

Tilton, John Littlefield, Ph.D. (Chicago, 1910); Associate Professor of Geology; 1920; Evansdale; 1338R.

Torrey, Marion Marsh, A.M. (Brown, 1917); Instructor in Mathematics; 1920; 506 North High Street; 796R.

Trotter, Frank Butler, A.M. (Roanoke, 1895); LL.D. (W. Va. Wesleyan, 1914); President; 1916; 1907; 549 Front Street; 151J.

Trotter, James Russell, LL.B., A.M. (Harvard, 1896); Professor of Law; 1908; 15 Demain Avenue; 362J.

Truscott, Frederick Wilson, Ph.D. (Harvard, 1896); Professor of Germanic Languages and Literature; 1899; Willey Street; 197.

Tuckwiller, Ross Homan, B.S.Agr. (W. V. U., 1916); Assistant in Beef Cattle Investigations, Experiment Station; 1916; Lewisburg, W. Va.

Vandervort, Hu Swisher, B.S.Agr. (W. V. U., 1911); Assistant Director in Charge of Horticulture, Agronomy and Dairying; Agricultural Extension Staff; 1919; 1912; 51 Maple Avenue; 1163J.

Van Hecke, Maurice Taylor, J.D. (Chicago, 1917); Assistant Professor of Law; 1920; 248 Jackson Avenue; 1199J.

Van Der Heyde, Henry Christian, Sc.D. (University of Amsterdam, 1920); Assistant in Physiology and Physiological Chemistry; 1920; 79 Grant Avenue.

Vickers, Enoch Howard, A.M. (Harvard, 1894); Professor of Economics and Sociology; 1910; 748 University Terrace; 692J.

Waggoner, Chauncey William, Ph.D. (Cornell, 1909); Professor of Physics; 1909; 730 University Terrace; 968M.

Weakley, Charles Edward, Jr.; Assistant Chemist, Experiment Station; 1907; Peabody Hotel.

Weil, Jeannetta; Chief Clerk, Agricultural Extension Staff; 1912; 272 Prospect Street.

West, Rufus Asa; Instructor in Metal Working; 1913; 1892; 181 First Street; 132J.

Westover, Kyle Chester, B.S. (New Hampshire, 1917); Assistant Professor of Horticulture; 1920; 741 North Front Street.

Whetsel, Mabelle Eleanor; Student Assistant in Music; 1920; 72 Bridge Street.

White, Bennett Sexton, B.S.M.E. (W. V. U., 1897); Instructor in Drawing; 1919; 115 Quay Street; 873M.

Whitehill, Alexander Reid, Ph.D. (Washington & Jefferson College, 1887); Professor of Chemistry; 1885; Prairie Avenue and Wagner Road; 699.

Wiestling, Helen, A.B. (W. V. U., 1911); Assistant in Zoology; 1920; 1918; 480 Spruce Street; 494.

Willey, William Patrick, A.M. (Dickinson College, 1865); Professor of Equity, Jurisprudence and Commercial Law, Emeritus; 1912; 1883; 250 Pleasant Street; 150M.

Williams, Edgar, A.M. (Harvard, 1915); Instructor in English; 1918; 56 Ash Street; 263M.

Willis, Dennis Martin, A.B., LL.M. (W. V. U., 1905, 1908); Financial Secretary; 1915; 1895; 212 Park Street; 1078J.

Wilson, Charles Vinyard, B.S.Agr. (W. V. U., 1919); Instructor in Animal Husbandry; 1919; 520 North High Street; 284R.

Winter, John E., Ph.D. (University of Michigan, 1917); Assistant Professor of Psychology; 1921; 268 McLane Avenue; 235M.

Winkler, Charles Herman, Ph.D. (Missouri, 1916); Assistant Professor of Agricultural Education; 1916; 10 Clark Street; 864J.

York, Harlan Harvey, Ph.D. (Johns Hopkins, 1911); Professor of Botany; 1919; 45 Jones Avenue.

Young, Frances Margaret, B.S. (Wisconsin, 1920); Instructor in Home Economics; 1920; 621 Spruce Street; 349M.

LIST OF STUDENTS

STUDENTS ENROLLED IN THE COLLEGES.

NOTE.—The following list includes the names of all students enrolled in the various colleges of the University, arranged in alphabetical order. Following each students' name and address are given his class, course of study which he is pursuing, or the degree for which he is a candidate. The word freshman, sophomore, etc., following the student's name, indicates his rank on the first day of November, 1920. Regular students in the College of Law have the following standing in the University: first-year students, sophomore; second-year students, junior; third-year students, senior; except those holding a bachelor's degree. Students whose names are marked with an asterisk (*) are ranked as freshmen, but are conditioned in one or more preparatory subjects. Students marked as special students are classified in accordance with the regulations found on page 32 of this Catalogue.

Aaron, Jeanner Herman	Morgantown	Voc., Agr.
Abbey, Myron J.	Bozeman, Mont.	Sen., B.S.Agr.
Adams, Daniel Jenifer	Sutton	Soph., B.S.Agr.
Adams, Guy Carson	Keyser	Voc., Agr.
Adams, Jane Woolcock	Huntington	Jun., A.B.
Adams, John Quincy	Huntington	Soph., A.B.
Addis, Carroll Weldin	Connellsville, Pa.	Fr., B.S.E.E.
Adkins, James Lawrence	St. Marys	*Fr., B.S.Agr.
Agee, Linwood Agnos	Williamson	Fr., B.S.E.E.
Ahouse, John	New Milton	Soph., A.B.
Ahrens, Charles Boger	Wheeling	3rd yr. Law
Akins, John Russell	Hundred	Sen., B.S.C.E.
Albright, Erbie Claire	Morgantown	Spec., H.E.
Alderson, Ida Lee	Summersville	Sen., A.B.
Alderson, John Duffy	Morgantown	Sen., A.B.
Allen, Alice Lorene	Parkersburg	Soph., A.B.
Allen, Anna Jane	Morgantown	Jun., A.B.
Allen, James Shepard	Randall	*Fr., M.S.E.M.
Allen, Virginia Lee	Parkersburg	Fr., A.B.
Allewelt, Sue Moore	Sewickley, Pa.	Sp., H.E.
Allman, Raymond Thorn	Jane Lew	*B.S.M.E.
Alvarez, Manuel	Caguas, P. R.	Fresh., B.S.Agr.
Amick, Eldon Andrew	Nuttallburg	Fr., A.B.
Anderson, Charles	Littleton	*Fr., A.B.
Anderson, Charles Claude B.S., Berea College, 1913.	Morgantown	Grad. M.S.
Anderson, James Lee	Littleton	Jun., A.B.
Anderson, Seaton Tinsley	Charleston	Fr., A.B.
Angelo, Ida Marie	Parsons	*Fr., B.S.H.E.

Ankeny, Roy Horace	Indiana, Pa.	Jun., A.B.
Arias, Thomas Albert	Panama City, R. of P.	Soph., A.B.
Armstrong, Virginia Dent	Grafton	Jun., A.B.
Arnold, Edna	Weston	Sen., A.B.
Arthur, Oscar Fred	Weston	Soph., B.S.E.M.
Ash, Dwight Avery	Fairmont	Fr., A.B.
Ash, John Holley	Metz	*Fr., A.B.
Ashcraft, Ward L.	Wallace	Soph., B.S.Agr.
Atwood, Dorothy May	Morgantown	Soph., B.S.H.E.
Atwood, Norman Calvin	Morgantown	Soph., B.S.Ch.E.
Aurandt, Harry Keller	Meyersdale, Pa.	Fr., B.S.E.E.
Ayers, Delmonte	West Milford	*Fr., B.S.Agr.
Ayers, Estel Leroy	Cumberland, Md.	*Fr.,B.S.M.E.
Ayers, Joseph Allen	Fairmont	Grad., A. & S.
A.B., West Virginia University, 1917.		
Bachman, Adelaide Sophia	Wheeling	Soph., A.B.
Baer, Herbert Kelsey	Morgantown	Soph., A.B.
Baer, Ralph David	Morgantown	Fr., B.S.M.E.
Bagwell, Spurgeon Haden	Morgantown	Voc., Eng'g.
Bailey, Charles Wildey	Flemington	*Fr., B.S.E.E.
Bailey, Claire Burns	Morgantown	Sen., A.B.
Bailey, Harvey Clarke	Morgantown	Sen., B.S.Agr.
Bailey, Hugh Estil	Morgantown	*Fr., B.S.M.E.
Bailey, Jessie Lee	Morgantown	Soph., B.S.H.E.
Bailey, Mae Lilian	Morgantown	Soph., A.B.
Bailey, Randolph Cooke	Keyser	Fr., A.B.
Bailey, Raymond Evan	Griffithsville	Fr., A.B.
Baird, Anna Elizabeth	Elm Grove	Fr., B.S.H.E.
Baird, Josiah Wallace	Elm Grove	Fr.. B.S.Agr.
Baker, Estelle Mae	Huntington	Soph., A.B.
Baker, Frank McNeer	Alderson	*Fr., B.S.E.E.
Baker, Grace Elliott	Morgantown	Sen., A.B.
Baker, James Plummer	Cheat Haven, Pa.	Fr., A.B.
Ball, Claude Russel	Bridgeport	*Fr., A.B.
Ball, Geobel Keith	Williamson	Fr., A.B.
Ball, Nina Elizabeth	Spencer	Soph., B.S.H.E.
Ball, Walter Frank	Johnstown, Pa.	2nd Year Law
Ballard, Howard Hampton	Peterstown	*Fr., A.B.
Ballard, Maggie Byrnside	Greenville	Fr., A.B.
Bangham, Walter Nicholas	Wilmington, Ohio	*Fr., B.S.Agr.
Barber, Daniel Newman	Charleston	Sen., B.S.
Barber, Lucy	Charleston	Fr., A.B.
Barber, Sarah Couch	Charleston	Fr., A.B.
Barker, Mildred Joy	Morgantown	Sen., A.B.
Barnard, George Fisher	Richard	*Fr., B.S.M.E.
Barnard, Vernon Michael	Richard	*Fr., A.B.
Barnes, Burlin Bradford	Elkins	Fr., B.S.E.M.
Barnes, Edith	Morgantown	Fr., B.S.H.E.
Barnes, Lena Ice	Morgantown	Special A. & S.
Barnes, Ralph Mosser	Morgantown	Soph., B.S.M.E.
Barnes, Sarah Grace	Weston	Soph., A.B.
Barns, Bernie Hodges	Morgantown	Special A. & S.

Barns, Helen Virginia	Morgantown	Sen., A.B.
Barns, Mary Hodges	Morgantown	Sen., A.B.
Barone, Nicholas L.	Hollidays' Cove	*Fr., B.S.E.E.
Barrett, Edgar Overton	Fairmont	Soph., A.B.
Barrett, Winfield Ocal	Kokomo, Ind.	Soph., B.S.Ch.E.
Bartell, Joseph Anthony	Tarentum, Pa.	Fr., B.S.E.E.
Bartlett, J. Frank	Gassaway	*Fr., B.S.Ch.E.
Bartlett, Ola Frances	Webster	Fr., A.B.
Barton, Fay Thomas	Point Pleasant	Fr., A.B.
Beard, Earl Bright	Hillsboro	Fr., B.S.Agr.
Beard, Harry Elmo	Huntington	*Fr., A.B.
Beard, Orin Jennings	Point Pleasant	Soph., B.S.Agr.
Beatty, Bessie Leah	Morgantown	Soph., A.B.
Beck, Carl Linnwood	Harrisburg, Pa.	*Fr., A.B.
Beck, Geneva Gladys	New Geneva, Pa.	Jun., A.B.
Beckett, Shelby Carl	Eggleton	Voc., Agr.
Bee, Russell Edward	Pennsboro	Soph., A.B.
Beeghley, Jesse Wirt	Weston	Jun., A.B.
Bekenstein, Joseph	Charleston	Soph.. B.S.Ch.E.
Bell, Charley Ross	Rector	Voc., Agr.
Bell, Ezeriah Franklin	Teays	Voc., Agr.
Bell, Roy Austin	Shepherdstown	1st Yr. Med.
Bennett, David Worth	Duffy	Voc., Eng'g.
Bennett, Gladys Marian	Morgantown	Sen., B.S.H.E.
Bennett, Mary Louise	Morgantown	Fr., A.B.
Bennett, Paul Clifford	Morgantown	Soph., B.S.Agr.
Berardelli, Samuel	Follansbee	Soph., A.B.
Berdine, James Wayman	Hundred	1st Yr. Phar.
Berenfield, Simon	Pittsburgh, Pa.	1st Yr. Med.
Berg, Anthony	Morgantown	Grad. A. & S.
B.S., University of Wisconsin, 1912.		
Berry, Evelyn Virginia	Morgantown	Fr., B.S.H.E.
Berry, Lucile	Morgantown	Soph., A.B.
Berryman, Charlotte Elizabeth	Bluefield	Sen., A.B.
Bibbee, Carl Roush	Hanna	Sen., B.S.Agr.
Bibbee, Paul Cecil	Hanna	Sen., B.S.Agr.
Bickel, Charles Russell	Parkersburg	Sen., B.S.E.M.
Bickner, Alvah Warren, Jr.	Rutherford, N. J.	1st Yr. Med.
Bierer, Fred	Morgantown	Fr., B.S.E.M.
Biery, Frederick David	Wheeling	Fr., B.S.Agr.
Biljchevich, Milan	Vukovar, Serbia	Voc., Agr.
Billingslea, Arthur Blake	Worthington	Fr., A.B.
Bingham, Kathleen Graham	Washington, D. C.	Special A. & S.
Bishop, Carter Richard	Morgantown	Grad., A. & S.
A.B., West Virginia University, 1918.		
Bishop, Marvin Albright	Terra Alta	Soph., B.S.H.E.
Blair, Samuel Brice	New Martinsville	Fr., B.S.E.E.
Blake, Earl Clark	Sherrard	Jun., A.B.
Blake, Gladys Mae	Morgantown	Soph., A.B.
Bland, Charles Newton	Weston	Fr., A.B.
Bland, Theodoric Edward	Weston	Fr., B.S.Agr.
Blandford, Robert Sprigg	Morgantown	Fr., B.S.M.E.
Blatchford, Eddith La Verne	Belington	*Fr., B.S.H.E.
Blazer, Abraham	New York City, N. Y.	1st Yr. Med.

Bloom, Mildred Faustatine	Morgantown	Soph.. B.S.E.E.
Bloomfield, Helen Virginia	Wheeling	Fr., B.S.H.E.
Blue, William Frederick	Charleston	Fr., A.B.
Board, Bernard Carr	Charleston	Fr., B.SM.E.
Bobbitt, James Sterling	Persinger	*Fr., B.S.Agr.
Boggess, John Carney	Shinnston	Fr., B.S.Agr.
Boggs, Eva Gertrude	Big Otter	*Fr., B.S.H.E.
Boggs, Raymond Priest	Franklin	Fr., A.B.
Bolton. Anna Mabel	Morgantown	Sen., A.B.
Bonnesen, Ruth	Wheeling	Fr., A.B.
Booth, Leland	Belington	Fr., B.S.Agr.
Bosley, Herbert Kight	Davis	Soph., A.B.
Boso, Goldie Lucille	Parkersburg	Jun., A.B.
Bossio, Michael	Morgantown	Voc., Agr.
Boundy, Austin John	Cameron	Jun., B.S.M.E.
Bourn, Warren Scudder	Morgantown	Soph., A.B.
Bowers, Helen Walters	Wheeling	Sen., A.B.
Bowers, Karl Douglas	Clarksburg	*Fr., B.S.C.E.
Bowling, Garnet Fairfax	Princeton	Special Phar.
Bowman, Harvey Bird	Wheeling	Sen., B.S.Agr.
Bowyer, Virgil Franklin	White Sulphur Springs	*Fr., B.S.E.M.
Boyd, Palmer Vaiden	Alton, Va.	Voc., Agr.
Boyers, Robert Hayes	Morgantown	Fr., B.S.E.E.
Boyles, Bonnie Lynne	Clarksburg	Sen., A.B.
Bradford, Harold Keith	Pennsboro	Soph., A.B.
Bradley, Frederick Arthur	Morgantown	Sen., B.S.Agr.
Bradley, John Junius	Knoxville, Tenn.	Soph., B.S.M.E.
Brady, James Zell	Fairmont	*Fr.. B.S.E.M.
Brand, Beulah Grace	Morgantown	Jun., A.B.
Brand, Gail	Morgantown	Jun., B.S.H.E.
Brannon, Linn Mapel	Weston	Sen, A.B.
Braun, Arpad	Cleveland, Onio	1st Yr. Med.
A.B., Adelbert College, 1920.		
Brewster, John McLaughlin	Weston	2nd Yr. Med.
Briggs, Herbert Whittaker	Morgantown	Sen., A.B.
Briggs, Howard Lewis	Morgantown	Fr., A.B.
Bright, Percy Wade	Sutton	Fr., A.B.
Broadwater, Theodore Verne	Belington	Sen., A.B.
Brock, Robert Luther	Morgantown	1st Yr. Law
A.B., West Virginia University, 1920.		
Brohard, Encil Ray	Fairview	Soph., B.S.Agr.
Brooks, Florence Marian	Buckhannon	Jun., B.S.H.E.
Brooks, Leland Mason	Buckhannon	Fr., B.S.E.E.
Brown, Elizabeth	Morgantown	Fr., A.B.
Brown, Emma Louisa	Morgantown	Sen., A.B.
Brown, Frank Orcutt	Charleston	Soph., B.S.Ch.E.
Brown. Garrett Fairfax	Kingwood	Fr., A.B.
Brown, Joseph Charles	Nallen	*Fr., B.S.E.E.
Brown, Orval Ala	Stouts Mills	*Fr., B.S.E.E.
Brown, Ross Duncan	Fairmont	Jun., B.S.E.E.
Brown, Samuel Byrne	Morgantown	Soph., B.S.E.M.
Browning, Charles C.	Omar	*Fr., A.B.
Browning, Chauncey Hoyt	Morgantown	*Fr., A.B.
Browning, Kathryn Sylvia	Morgantown	Sen., B.S.H.E.

Browning, Lawrence	Omar	*Fr., A.B.
Browning, Virginia Maude	Morgantown	Soph., B.S.H.E.
Bruffy, James Barnard	Pullman	Fr., A.B.
Buchovecky, John	Johnstown, Pa.	*Fr., B.S.E.E.
Buckey, William Emmett	Fairmont	Sen., A.B.
Buckley, Ralph Barnett	Buckeye	Soph., B.S.Agr.
Buitrago, Eugenio, Jr.	Guayama, P. R.	Fr., B.S.M.E.
Burdett, Pauline	Grafton	1st Yr. Phar.
Burdette, Frank	Lewisburg	Soph., B.S.Ch.E.
Burdette, William Leps	Lewisburg	Sen., B.S.M.E.
Burk, Helen Elizabeth	Morgantown	Jun., A.B.
Burke, Charles Edmund	Ridgeley	Fr., A.B.
Burkhardt, Marie Louise	Morgantown	Soph., B.S.H.E.
Burley, Maude Marie	Davis	Sen., A.B.
Burley, William James	Moundsville	Jun., A.B.
Burns, James Francis	Fairmont	Sen., A.B.
Burns, Margaret	Terra Alta	1st Yr. Phar.
Burnside, Lester Wade	Good Hope	Soph., B.S.E.M.
Burt, Joseph Freeman	Williamstown	*Fr., A.B.
Burton, Arthur Garfield	Matoaka	Fr., A.B.
Burton, William Preston	Matoaka	2nd Yr. Med.
Bush, Bonnie Belva	Cox's Mills	Fr., A.B.
Bush, Mary Hope	Cox's Mills	*Fr., B.S.H.E.
Bushnell, Marshall Ernest	Hanover, N. H.	*Fr., B.S.E.E.
Butcher, Mattie Nell	Clay	*Fr., A.B.
Butler, Berda Lynch	Morgantown	Sen., A.B.
Butler, James Dalzell	Hedgesville	Soph., A.B.
Butler, Stanley Cornealius	Huntington	Sen., B.S.Agr.
Butts, Randolph Henry	Wheeling	Fr., B.S.C.E.
Cablish, Louis Smith	Charleston	Fr., B.S.M.E.
Cadden, James Joseph	Keyser	Soph., B.S.Agr.
Cahill, Thomas Joseph	Smithton	Fr., B.S.Ch.E.
Cain, Harry E.	Morgantown	Jun., B.S.M.E.
Cairns, Jennie Lenore	Charleston	Fr., A.B.
Callaghan, Eulai Brooks	Craigsville	*Fr., A.B.
Callaghan, T. Tess	Craigsville	*Fr., B.S.C.E.
Callaham, Paul Ronald	Hinton	*Fr., B.S.E.E.
Calvert, James William	Clarksburg	Fr., A.B.
Calvert, Ruby Marian	Paw Paw	Jun., B.S.Agr.
Campbell, Florence Fae	Newburg	Soph., B.S.H.E.
Campbell, Orman Crawford	Princeton	Soph., A.B.
Canfield, Cecil	Sutton	Voc., Agr.
Canter, Hyman	Pittsburgh, Pa.	2nd Yr. Med.
Cantner, Claire Cecil	Harrisville	*Fr., B.S.E.E.
Caperton, Erskine Miller	Charleston	Fr., B.S.E.E.
Carden, Charlie Stephenson	Weston	Soph., B.S.Ch.E.
Carden, Gertrude Elizabeth	Weston	Fr., B.S.H.E.
Carder, Joseph Ray	Bristol	Fr., A.B.
Carle, Elsie Dorothy	Wheeling	Sen., A.B.
Carney, Chesney Michael	Sherrard	Jun., A.B.
Carrico, Ethel Davis	Terra Alta	Fr., B.S.H.E.
Carrier, Chester Otto	Clarkson, Ky.	Fr., A.B.

Carroll, Arlo Bowlby	Morgantown	Jun.. B.S.Agr.
Carroll, Myra Louise	Masontown	Fr., A.B.
Carroll, Ruth Henrietta	Masontown	*Fr., A.B.
Carson, Charles Allen	Morgantown	Sen., A.B.
Carson, Clayton Calvin	Charleston	Soph., A.B.
Carson, Eulalia Mae	Morgantown	Sen., A.B.
Carte, Estol Taylor	Charleston	Jun., B.S.C.E.
Carter, Ida Virginia	Elm Grove	Soph., A.B.
Carter, James Marion	Clarksburg	*Fr., A.B.
Carter, Lester Jennings	E. Clarksburg	Fr., A.B.
Carter, Robert Moore	Mt. Hope	Fr., B.S.M.E.
Casseday, John Forman	Terra Alta	2nd Yr. Phar.
Castleberry, Edith	Huntington	Fr., A.B.
Casto, Dale George	Ripley	Soph., A.B.
Casto, Wendell Ewing	Ripley	Soph., A.B.
Cather, Harold Malcolm	Morgantown	Grad., Eng'g.
B.S., M.E., Texas A. & M. College, 1917.		
Cather, John Duane	Flemington	Soph., B.S.Agr.
Caudy. Daniel Gilbert	Camden-on-Gauley	Sen., B.S. & 2nd yr. med.
Cawley, Anna Agnes	Sistersville	Sen., A.B
Chabourel, Alfred	Morgantown	*Fr., B.S.E.E.
Chadduck, James Donald	Grafton	Soph., A.B.
Chalfant, Leslie Homer	Morgantown	Soph., B.S.E.M.
Chalfant, Sarah Margaret	Fairview	Soph., A.B.
Chambers, Vannetta	Martinsburg	Jun., A.B.
Chandler, Hudson	St. Albans	Jun.. B.S.E.E.
Chapman, Sara Anna	Morgantown	*Fr., A.B
Charlton, Harry, Jr.	Bluefield	Soph., A.B.
Charnock, John Nichols	Charleston	Fr., A.B.
Chenoweth, Doris Harriett	Glenville	Jun., B.S.H.E.
Chenoweth, John Earl	Baltimore, Md.	Voc., Agr.
Chichikov, John Thomas	Philippi	1st Yr. Phar.
Chipley, Joseph Branson	Moorefield	Fr., B.S.Agr.
Chitwood, Agnes Cady	Morgantown	Sen., A.B.
Chrislip. Walter Grant	Philippi	1st Yr. Phar.
Chrisman, Robert Ralston, Jr.	Morgantown	Soph., B.S. M.E.
Christopher, David Alfred	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1918.		
Christy, Mary Louise	Morgantown	Jun., B.S.H.E.
Church, Dorothy Virginia	Grafton	Soph., A.B.
Church, Irene Grace	Morgantown	Fr., B.S.Agr.
Clapham, Roger Everhart	Martinsburg	2nd Yr. Med.
Clark, Alexander James	Wellsburg	Fr., Phar.
Clark, Alva Bernard	Bramwell	Jun., A.B.
Clark, Asa	Morgantown	Fr., A.B.
Clark, Carl	Princeton	*Fr., B.S.C.E.
Clark, Ethel Jordan	Folsom	Fr., A.B.
Clark, Joseph Stanton	Charleston	Soph., A.B.
Clark, Mary Eloise	New Martinsville	Sen., B.S.H.E.
Clarke, Alice Williamson	Graham Station	Fr., A.B.
Clarke, Nancy Dorothy	Sistersville	Jun., A.B.
Clarke, Presley Wilmott	Graham Station	Soph., A.B.
Clovis, Maurice Lawrence	Maxwell	2nd Yr. Phar.

Clower, James Ira	Romney	Soph., B.S.M.E.
Cobb, Elihu Hutton	Elkins	Fr., B.S.M.E.
Cobun, Frank Sanford	Morgantown	Fr.. B.S.C.E.
Cochran, Anagrace Bell	Morgantown	Sen., A.B.
Cochran, John Kermit	St. Marys	*Fr, B.S.E.E.
Cochran, Philip James	Morgantown	Sen., A.B.
Coffindaffer, Russell Smith	Jane Lew	Soph., A.B.
Coffman, Edward Goodwin	Mannington	Soph., A.B.
Cohen, Arthur Morris	Pittsburgh, Pa.	1st Yr. Med.
Colcord, Tristram Coffin	St. Albans	Jun., B.S.E.M.
Colebank, George Henry	Fairmont	Sen., A.B.
Coleman, John William	Victor	Soph., B.S.Agr.
Collett, Irene Marie	Morgantown	Fr., A.B.
Collins, Mary Priscilla	Malden	Fr., A.B.
Conaway, Donald Edward	Morgantown	Sen., B.S.C.E.
Conaway, Mary Louise	Morgantown	1st Yr. Law
Condry, Raphael Joseph	Clarksburg	Soph., A.B.
Conley, Crede Haymond	Clarksburg	Sen., A.B.
Coogle, Rachel Agnes	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1920.		
Cook, Alvin Jenner	Beckley	Jun., A.B.
Cook, John Roach	Fairmont	Soph., B.S.E.E.
Cook, Zula May	Gap Mills	Soph., A.B.
Cooper, Chalmer Lewis	Parkersburg	Soph., B.S.E.M.
Cooper, Dawson Elmer	Hinton	1st Year Phar.
Copley, James	Logan	Fr., B.S.E.E.
Corbitt, Gordon Page	Waverly	Fr., B.S.E.E.
Cormany, William John Benjamin	Belington	Sen., A.B.
Costelow, Dora	Tunnelton	Fr., A.B.
Cottle, Samuel Walter	Spencer	Soph., A.B.
Cotton, Lilian	St. Marys'	Soph., A.B.
Cottrill, Joseph Charles	Mannington	Soph., B.S.Agr.
Cotts, Clifford Harry	Elm Grove	Soph.. B.S.C.E.
Coughlin, Helen Marie	Morgantown	Fr., A.B.
Courtney, David Hall, Jr.	Welch	Soph., A.B.
Courtney, DeWitt Gibner	Morgantown	Soph., A.B.
Counts, William Ralph	Charleston	Fr., A.B.
Courtney, John Franklin	Charleston	Fr., B.S.M.E.
Courtney, Joseph Henry	Morgantown	Soph., A.B.
Courtney, Sarah Blanche	Morgantown	Fr., B.S.H.E.
Cowl, James Lancaster	Wheeling	Jun, A.B
Cowl, Ralph Hunter	New Cumberland	*Fr., A.B.
Cox, James Carl	Cox's Mills	Sen., B.S.Agr.
Craig, Frank Waldo	Tunnelton	Soph., B.S.Agr.
Crandall, Charles Dewey	Parkersburg	*Fr., A.B.
Crawford, Edith	Pittsburgh, Pa.	Jun., A.B.
Crawford, Virginia	Sistersville	Fr., A.B.
Cree, George Fletcher	Wellsburg	Jun., A.B.
Creighton, John Seamon	Elm Grove	Jun., B.S.Agr.
Crockett, Nancy Dalton	Monroe, Va.	Fr., B.S.Agr.
Crosfield, Anna Hunt	Berkley Springs	Fr., A.B.
Crossland, Howard Young	Arrow, Pa.	Jun., A.B.
Crow, Edgar Garred	Huntington	Fr., B.S.E.E.
Crowl, Malissa Louise	Fairmont	Sen., A.B.

Culross, Mary Belle	Williamson	Sen., A.B.
Cummings, Hugh Raymond	Wellsburg	Jun., A.B.
Cundiff, Esther Mae	Huntington	Soph., A.B.
Cure, Mortimer Daniel	Weston	Soph., B.S.E.M.
Curren, Mary Margaret	Elm Grove	Soph., A.B.
Currence, Troy Mansell	Ellamore	Soph., B.S.Agr.
Current, Howard Wesley	Thornton	1st Yr. Med.
Current, Wilbur Russell	Thornton	Soph., B.S.Ind.En
Cutright, Paul Russell	Adrian	Sen., A.B.
D'Agostino, Joseph	Morgantown	*Fr., B.S.E.E.
Dague. Carrie Maud	Elm Grove	Grad. A. & S.
A.B., West Virginia University, 1909.		
Dague, Evelyn	West Brownsville, Pa.	Soph., A.B.
Daiell, Hyman	Brooklyn, N. Y.	Soph., A.B.
Daniel, Ross Preston	Marshes	1st Yr. Med.
Daniels, Elsie Ruth	Parsons	Soph., B.S.H.E.
Danner, Fred George	Connellsville, Pa.	Fr., B.S.E.M.
Darlington, Hollie Clayton	Wriston	Soph., A.B.
Dasher, William Cowger	Moorefield	Fr., B.S.E.E.
Daughenbaugh, Paul Jones	Thomas	Fr., A.B.
Daugherty, Grattan Mitchell	Hinton	Sen., A.B.
Daugherty, Norma Regina	Hinton	Fr., B.S.H.E.
Davenport, Benton Stevenson	Charleston	*Fr., B.S.M.E.
Davia, Faustina DeCarlo	Monongah	Jun., A.B.
Davis, Cabell Seal	Pence Springs	Soph., A.B.
Davis, Charles Henry, Jr.	Chester	Voc., Eng'g.
Davis, Earl Crawford	Follansbee	Fr., B.S.Ch.E.
Davis, Gale Stephen	Charleston	*Fr., A.B.
Davis, Hannibal Albert	Morgantown	Soph., A.B.
Davis, Henry Caperton	Pence Springs	Fr., A.B.
Davis, Howard Smith	Out Crop, Pa.	Fr., B.S.E.E.
Davis, Hubert Beryl	Weston	Soph., B.S.Agr.
Davis, John Blain	Hillsville, Va.	Voc., Agr.
Davis, Mary Letitia	Clarksburg	Soph., B.S.H.E.
Davis, Norvel Reed	Charles Town	Soph., A.B.
Davis, William Allan	Parkersburg	Fr., B.S.C.E.
Davisson, Edwin George, Jr.	Weston	Fr., A.B.
Davisson, John Andrew	Harrisville	Fr., A.B.
Dawkins, Nettie	Sandyville	Sen., A.B.
Dawson, Paul Batten	Lost Creek	Soph., B.S.Agr.
Deahl, Kenneth	Newburg	Soph., B.S.C.E.
DeBerry, Virginia Elizabeth	Clay	Soph., A.B.
Deem, Homer Leander	Slate	Soph., B.S.Agr.
Demarrie, Tony	Manayka	Soph., A.B.
Dennison, Raymond Lewis	Wallace	Fr., B.S.Agr.
Dent, Inez May	Troy	*Fr., A.B
DePue, James Marshall	Morgantown	Jun., B.S.Agr.
DePue, Thomas Norris	Morgantown	Fr., B.S.Agr.
Devericks, Bertie William	Clarksburg	Fr., B.S.E.M.
Devine, James Paul	Parkersburg	*Fr., A.B.
Dewar, Maud Margaret	Parkersburg	Soph., B.S.H.E.
Dick, Gayle Pauline	Charles Town	Jun., A.B.
Dickinson, Minnie Lee	Cheat Haven, Pa.	Soph., A.B.

Dickman, Harold Joseph	Wheeling	Soph., B.S.C.E.
Dixon, Joseph Brashear	Morgantown	Jun., B.S.Agr.
Dodrill, Everett Lewis	Morgantown	Soph., A.B.
Dolan, Lee Michael	Clarksburg	Fr., A.B.
Dolley, Eunice Pennington	Gastonia, N. C.	Jun., A.B.
Dolly, Olie Corbet	Key	Voc., Agr.
Donham, Paul Earnest Jennings	Fairmont	Soph., A.B.
Donley, Robert Tucker	Morgantown	Fr., A.B.
Donnally, Fitzhugh	Morgantown	Jun., B.S.E.E.
Donovan, Ruth Davis	Huntington	Jun., B.S.H.E.
Doolittle, Lambert McChesney	Huntington	2nd Yr. Law
Dorsey, Arch	Moundsville	Fr., A.B.
Dorsey, Wesley Franklin	Mt. Lookout	2nd Yr. Med.
Dotson, Eva Walton	St. Marys	Soph., A.B.
Dotson, Gertrude	Richwood	Fr., A.B.
Dougan, Katharine Josephine	Morgantown	*Fr., B.S.H.E.
Dougherty, John Edwin	Elkins	1st Yr. Med.
Dower, Theresa Averil	Point Pleasant	Fr., A.B.
Dubois, Florian Peter	Morgantown	*Fr., B.S.E.E.
Dudley, Harold Guilford	Sistersville	Soph., B.S.M.E.
Duerr, Charles Edward	New Martinsville	Soph., B.S.M.E.
Dunn, Clarence Monroe	Morgantown	*Fr., A.B.
Dunn, Emma Parke	Morgantown	*Fr., B.S.Agr.
Dunn, Jasper McDonnell	Morgantown	Jun., B.S.Agr.
Dye, Arthur Pingree	Morgantown	Fr., B.S.Agr.
Dye, Mabel Taylor	Mineral Wells	Sen., A.B.
Dyer, John Rush	Webster Springs	*Fr., A.B.
Dyer, Newman Houghton	Webster Springs	Soph., A.B.
Eagan, Stewart	Ronceverte	Soph., B.S.E.E.
Eakin, Armstrong	Morgantown	Jun., B.S.M.E.
Eakle, Earl Lough	Clay	Jun., A.B.
Easley, Andrew Woolwine	Bluefield	Soph., A.B.
Edmondson, Gladys Chastiagne	Morgantown	Jun., A.B.
Edmondson, Helen Louise	Morgantown	Jun., A.B.
Eicks, Paul Menken	Belmar, N. J.	Fr., A.B.
Emch, John William	New Martinsville	Soph., B.S.E.M.
Emsweller, Samuel Leonard	Morgantown	Jun., B.S.Agr.
England, Arline Isis	Charleston	Fr., A.B.
England, Leonard Wotring	Beverly	Fr., B.S.M.E.
England, Welch	Athens	Fr., A.B.
Enigson, Edward	Morgantown	Fr., B.S.M.E.
Ernest, Charles David Fairfax	Belington	Soph., B.S.E.E.
Etter, Susan Eleanor	Morgantown	Sen., B.S.H.E.
Evans, James Carlos	Kermit	Fr., B.S.C.E.
Ewing, Clara Pyle	Harrisburg, Pa.	Sen., A.B.
Fahey, Willis Howard	Wheeling	Fr., A.B.
Fair, Anna Louise	New Martinsville	*Fr., A.B.
Fair, Grace Cecelia	Wallace	Jun., B.S.H.E.
Farley, Erman Penson	Logan	*Fr., A.B.
Farmer, George Robert	New Martinsville	2nd Yr. Law
Farmer, John Dunn	Bolt	Sen., B.S.Agr.

A.B., West Virginia University, 1916.

Fast, Josephine Elizabeth	Morgantown	Sen., A.B.
Faulkner, Lynn Tecumseh	Morgantown	Soph., B.S.E.E.
Fear, Harvey Earl	Fairmont	Sen., A.B.
Fear, Olan DeWitt	Fairmont	Sen., A.B.
Feather, Ray Everett	Smithfield, Pa.	Fr., A.B.
Federer, George Andrew, Jr.	Morgantown	Grad. A. & S.
Fenderson, Charles Bowell	Sutherland, Va.	Voc., Agr.
Fenimore, Albert Clarence	St. Albans	*Fr., B.S.E.M.
Fenton, Clement Coleman	Cambridge, Mass.	1st Yr. Med.
Ferguson, Milton Carr	Huntington	Fr., A.B.
Ferguson, Samuel James	Wayne	1st Year Med.
Fevrier, Ralph Joseph	Manayka	Fr., Phar.
Fidler, Kemp A.	Tioga	Fr., A.B.
Field, Helen Preston	Huntington	Jun., A.B.
Fife, Frances Elizabeth	Morgantown	Soph., A.B.
Figueroa, Liborio	Humacao, P. R.	2nd Yr. Med.
Finegold, Abraham	Carnegie, Pa.	1st Yr. Med.
Finnell, Robert Blackman	Keyser	Fr., A.B.
Fiscus, John William	Apollo, Pa.	Fr., A.B.
Fisher, Angela Dorothy	Reynoldsville, Pa.	Jun., A.B.
Fisher, Dana Earl	Morgantown	Soph., A.B.
Fisher, Edgar Maxwell	Morgantown	Fr., B.S.Ch.E.
Fisher, Mary Elizabeth	Sutton	Fr., A.B.
Fisher, William Glenn	Flatwoods	Soph., B.S.Agr.
Fitch, Harold George	Clator	Fr., A.B.
Fitch, James Plummer, Jr.	Morgantown	Jun., A.B.
Fitch, Thomas Simon Paddock	Plainfield, N. J.	Soph., A.B.
Flanagan, Joseph Frank	Buckhannon	*Fr., B.S.Agr.
Fleming, Florence Rosalean	Grafton	Fr., A.B.
Fleming, Joseph Arch	Fairmont	Fr., A.B.
Fleshman, Dewey Linwood	Pence Springs	2nd Yr. Med.
Fleshman, Pauline Anna	Blue Sulphur	Soph., B.S.H.E.
Fling, Elsie Frances	Morgantown	*Fr., B.S.H.E.
Foley, Louis Putnam	Connellsville, Pa.	Jun., A.B.
Foose, Alphonse Maurice	Wheeling	1st Yr. Law
Forastieri, Jose Arturo	Caguas, P. R.	Fr., A.B.
Ford, Aubrey Eugene	Huntington	Jun., B.S.Ch.E.
Ford, Eli Hester	Virgilina, Va.	Voc., Agr.
Ford, Orfa Rex B.S., Salem College, 1915.	Salem	Grad. A. & S.
Ford, Vada Margaret	Sistersville	Fr., A.B.
Fordyce, Cless Yelving	Middlebourne	Jun., A.B.
Forman, Theodore McClellan	Morgantown	Fr., B.S.E.E.
Fortney, Alton Ree	Thomas	Fr., A.B.
Fortney, Jessie Rogers	Taylor	Jun., A.B.
Fouchs, Lawrence Earl	New Martinsville	*Fr., A.B.
Foutche, Charles Snyder	Berkley Springs	Fr., B.S.Agr.
Fowler, Glenn Aubert	Harrisville	Soph., B.S.Agr.
Fox, Herman Vance	Sutton	*Fr., A.B.
Fox, Virgil Ralph	Monongah	*Fr., B.S.E.E.
Fox, Wretha	Carmichaels, Pa.	*Fr., A.B.
Frame, Luke Wright	Morgantown	Soph., B.S.Agr.
Frame, Ray Ira	Sutton	2nd Yr. Med.
Frame, Wilbur Conan	Morgantown	Soph., A.B.

Frankenburger, Roy Taylor	Morgantown	Jun., B.S.M.E.
Frantz, Luther Marshall	Williamson	Soph., B.S.C.E.
Frazier, Archie James	Elm Grove	Voc., Agr.
Frazier, Hartzel Floyd	Weston	Fr., A.B.
Fredlock, James Ray	Piedmont	Fr., A.B.
French, James Hoagland	Bluefield	2nd Yr. Law
French, William Wirt	Bluefield	Fr., B.S.C.E.
Friend, Mary Mildred	Morgantown	Fr., A.B.
Friend, Wayne Zearley	Charleston	Fr., B.S.Ch.E.
Frisk, John Edward	Hill Top	*Fr., B.S.E.E.
Frum, John Maurice	Rosemont t	Sen., B.S.E.E.
Frum, Mary Alice	Morgantown	Jun., A.B.
Frum, William Hobart	Rosemont	Jun., B.S.M.E.
Fuccy, Lewis	Weston	Fr., A.B.
Fuller, Marion Cobb	Morgantown	Special A. & S.
Funk, Fred Jack	Fairmont	Fr., B.S.E.E.
Funk, Reese Randolph	Charleston	Fr., B.S.C.E.
Furbee, Frances Elizabeth	Mannington	Sen., A.B.
Furbee, Lloyd Charles	Ravenswood	Sen., B.S.Agr.
Furbee, Russell Logan	Mannington	3rd Yr. Law
Furno, Fred	Morgantown	Voc., Agr.
Gaffney, Joseph John	Johnstown, Pa.	*Fr., A.B.
Gain, Charles Grantham	Romney	Jun., A.B.
Gaines, Teresa Barbee	Bridgeport	*Fr., A.B.
Gallagher, Eva Eleanor	New Cumberland	Sen., A.B.
Gamble, Mortimer Williams, Jr.	Moorefield	Fr., A.B.
Gandy, Helen Cobun	Morgantown	Soph., A.B.
Gandy, Marion	St Petersburg, Fla.	*Fr., B.S.H.E.
Gans, Mary Elizabeth	Gans, Pa.	Soph., B.S.H.E.
Garcia, Georgina	Arecibo, P. R.	Fr., B.S.H.E.
Gardner, Arthur Maitland	St. Petersburg, Fla.	*Fr., B.S.M.E.
Gardner, Sigel Ona	Blacksville	Soph., A.B.
Garland, Samuel Meredith	Amherst, Va.	Voc., Agr.
Garrison, William McKinley	Moundsville	Voc., Agr.
Garvin, Hubert Deane	Moundsville	Soph., A.B.
Gaston, William Bryan	Clarksburg	Soph., A.B.
Gates, Cecil Raymond	Morgantown	Soph., A.B.
Gates, Madeline Alexander	Hopewell, Pa.	*Fr., A.B.
Gates, Mildred Carrie	Fairchance, Pa.	Soph., A.B.
Geiger, William Edward	Brooklyn, N. Y.	Soph., A.B.
George, Edward Metcalf	Wellsburg	Soph., A.B.
George, Eric Clinton	Mt. Hope	Fr., B.S.E.M.
George, Marion Frances	Morgantown	*Fr., A.B.
George, Mary Gaytura	Philippi	Fr., A.B.
Gerwig, Charles Olin	Chapel	Jun., B.S.C.E.
Gerwig, Opha John	Little Otter	Fr., B.S.Agr.
Gibbons, Charles Allen	Morgantown	Soph., B.S.E.M.
Gibson, James Knox	Triadelphia	Soph., A.B.
Gibson, Luther Vernon	Clay	1st Yr. Med.
Gibson, Mary Blanche	Sutton	Jun., A.B.
Gibson, Walter Everrette	De Soto, Mo.	Soph., B.S.Agr.
Gidley, Berthe Irene	Morgantown	*Fr., A.B.

Giffin, Theodore Clifton	Rowlesburg	2nd Yr. Med.
Gifford, Clella Maud	Wilsonburg	Fr., A.B.
Gifford, Warren	Wallace	Jun., B.S.Agr.
Gilmore, Virginia	Morgantown	Jun., B.S.H.E.
Gist, Maria Anna	Wellsburg	Jun., B.S.H.E.
Given, Arnold Jarrett	Elkview	1st Yr. Med.
Given, Ivan	Sutton	*Fr., B.S.M.E.
Givens, Grace Hopkins	Keenan	Soph., A.B.
Givens, Sarah Elizabeth	Keenan	Sen., B.S.H.E.
Givens, William Wiley	Keenan	Grad. A. & S.
A.B., West Virginia University, 1915.		
Glasscock, William Ellsworth, Jr.	Morgantown	3rd Yr. Law
Glenn, Louise Elizabeth	Clarksburg	Fr., A.B.
Glenn, Okey Bryan	Morgantown	Soph., A.B.
Glover, Theda Rae	Morgantown	2nd Yr. Phar.
A.B., West Virginia University, 1919.		
Gocke, Thomas Vincent	Piedmont	2nd Yr. Med.
Goff, Earle Jubal	Cowen	Fr., A.B.
Goff, Ethel Pauline	Mannington	Sp., Agr.
Goff, Frankie Florence	Pennsboro	Soph., A.B.
Goff, Golda Pauline	Weston	Fr., B.S.H.E.
Goff, Harvey Claude	Goffs	Soph., B.S.Agr.
Goff, John Trevy	Burnt House	1st Yr. Med.
Goldberg, Rudolph	New York, N. Y.	1st Yr. Med.
Golden, Marion Luther	Flatwoods	Fr., A.B.
Golembe, Julius	New York, N. Y.	1st Yr. Med.
Goodall, Cecile Roberta	Charleston	Fr., A.B.
Goodall, Elizabeth Jane	Charleston	Fr., A.B.
Gooding, Forrest Nelson	Terra Alta	Sen., B.S.Agr.
Goodnough, Leona Edwina	Wheeling	Jun., A.B.
Goodwin, George Reay	Morgantown	*Fr., A.B.
Gordon, Margaret Sanns	Marietta, Ohio	Grad., A. & S.
A.B., Marietta College, 1918.		
Gorman, Winnie Elizabeth	Morgantown	Fr., B.S.Agr.
Goucher, Mahrea Louise	Toronto, Ohio	Soph., A.B.
Gould, Mary Pearle	Williamstown	Jun., A.B.
Govier, Alice Millicent	Donora, Pa.	Soph., A.B.
Graham, Amy Catherine	Mt. Savage, Md.	Fr., B.S.H.E.
Graham, Cecil Harold	Mt. Hope	Sen., B.S.C.E.
Graham, David Calder	Morgantown	Soph., B.S.Agr.
Grant, Gladys Muriel Gail	Fairmont	Soph., A.B.
Gray, William James	Mt. Hope	Sen., A.B.
Greenspon, Gordon Abraham	Bluefield	Fr., B.S.E.E.
Greer, Joseph William	Fairmont	Soph., A.B.
Gregory, Clayton Hendrick	Webster Springs	Soph., A.B.
Gribble, Anna Merle	Morgantown	Fr., A.B.
Griffith, George Oscar	Grafton	Jun., A.B.
Gross, Paul Thomas	Morgantown	Soph., A.B.
Groves, Huling	Deepwell	Fr., A.B.
Grow, Eugene Ashby	Williamstown	Sen., B.S.Agr.
Gruber, Harry Neidhart	Morgantown	Soph., B.S.Agr.
Guerrieri, Emidio	Uniontown, Pa.	2nd Yr. Phar.
Guiher, Mary Melissa	Smithfield, Pa.	Jun. A.B.
Gunning, Eugene Thomas	Cumberland, Md.	Soph., A.B.
Guyer, Grover Cleveland	Morgantown	Voc., Agr.

Haas, Leonard Audrey	Morgantown	*Fr., B.S.E.E.
Haberlin, Chester Edward	Bridgeport, Conn.	1st Yr. Med.
Hagan, Edward Franklin	Hundred	Soph., B.S.E.M.
Hahn, Olive Marie	Hambleton	Fr., B.S.H.E.
Haines, Margaret Anne	Perryopolis, Pa.	Jun., A.B.
Haislip, Norvell Leonard	Parkersburg	Fr., A.B.
Hale, Grace	Weston	Fr., A.B.
Halko, John Joseph	Howesville	Sen., A.B.
Hall, Byron William	Sutton	Fr., B.S.Ch.E.
Hall, Cecil Maurice	Hinton	Soph.. A.B.
Hall, Clyde Hampton	Holstead	*Fr., A.B.
Hall, Frank LeRoy	Great Barrington, Mas	2nd Yr. Med.
Hall, Goldan Orlando	Parkersburg	Sen., B.S.Agr.
Hall, John Ruskin	Weston	Grad., A. & S.
A.B., Otterbein University, 1914.		
Hall, Ralph Herman	Harrisville	*Fr., B.S.C.E.
Hall, Roy Olney	Morgantown	Jun., A.B.
Hall, Stine Rolland	Parkersburg	Soph., B.S.E.E
Hallam, John Boyles	McKeeseport, Pa.	Soph., B.S.C.E.
Halperin, Isaac Elbanan	Cleveland, Ohio	1st Yr. Med.
A.B., Adelbert College, 1920.		
Hamill, Maurice Ralph	Mill Creek	*Fr., B.S.C.E.
Hamilton, Delbert Dewey	Richwood	*Fr., B.S.M.E.
Hamilton, Emery Wilson	Bearsville	Sen., B.S.Agr.
Hamilton, Fannie Loraine	Mannington	Fr., A.B.
Hamilton, Willey Lucille	Fairmont	Soph., A.B.
Hammock, Jess Evart	Kenova	Fr., A.B.
Hammond, Clay Duckworth	West Union	Sen., A.B.
Hamric, Erma Jane	Reedy	Soph., B.S.H.E.
Hamrick, Martin Elliott	Webster Springs	Jun., B.S.Agr.
Hamstead, Ezra Elbert	Eglon	Special A. & S.
Hanford, Josephine	Morgantown	Sen., A.B.
Hanks, Revel Mucklow	St. Albans	Soph., B.S.E.E.
Hanley, Gwendolen Joan	Mannington	Soph., A.B.
Hannah, Besse Velara	Edray	*Fr., A.B.
Hannah, Mary Florence	Edray	Soph., A.B.
Hansford, Roscoe	Mt. Clare	Fr., A. B.
Hardie, William Douglas	Grafton	*Fr., B.S.E.E.
Hardman, Victor Hugo	Jane Lew	Soph., B.S.Agr.
Hare, Alfred Crocus	Murfreesboro, N. C.	Voc., Agr.
Hare, John Lynn	Morgantown	Fr., B.S.Agr.
Hark, Joseph Lewis	Charleston	Jun., B.S.E.E.
Harker, Herbert Fletcher	Morgantown	Jun., B.S.E.M.
Harkins, Duncan Claire	Morgantown	Sen., A.B.
Harman, Charles Nash	Morgantown	Sen., B.S.E.E.
Harman, Clarence Stamm	New Martinsville	2nd Year Phar.
Harmer, Hardin Roads	Shinnston	Jr., B.S.C.E.
Harper, Camille DeVal	Spencer	*Fr., A.B.
Harpold, Allan Earl	Ravenswood	Jr., B.S.C.E.
Harrick, Joseph Victor	Punxsutawney, Pa.	Soph., B.S.Agr.
Harrick, Steven	Punxsutawney, Pa.	*Fr., A.B.
Harris, Adeline	Ronceverte	Fr., A.B.
Harris, Corra	Morgantown	Sen., B.S.H.E.
Harrison, Lucien Edgar	Huntington	Fr., B.S.E.M.

Harrison, Matthew Waite	Weston	Soph., B.S.Agr.
Harrison, Theta	Morgantown	Grad., A. & S.
A.B., West Virginia University, 1920.		
Hart, Walter Lawrence	Tunnelton	Soph., A.B.
Hartman, Bruce	Fairmont	1st Yr. Phar.
Hartman, Edwin Thomas	Morgantown	*Fr., B.S.E.E.
Hartshorn, Asa	Chicago, Ill.	Special A. & S.
Harvey, John Walker	Oak Hill	Fr., B.S.M.E.
Hassig, Byford Hill	New Martinsville	Fr., B.S.H.E.
Hawkins, Hazel	Pine Grove	Special A. & S.
Hawkins, Robert Cunningham	Fairmont	Soph., B.S.Agr.
Hawley, Roy McKinley	Bluefield	Fr., B.S.C.E.
Hayes, Benjamin Raymond	Morgantown	*Fr., A.B.
Hayes, Mary Tirzah	Morgantown	Jun., A.B.
Hayes, Myrtle Vance	Lewisburg	Fr., A.B.
Hayes, William Stuart	Morgantown	Fr., B.S.C.E.
Hayman, Leila Cathryn	Murray City, Ohio	1st Yr. Phar.
Hays, James Franklin	Weston	2nd Yr. Med.
Heater, Francis Harley	Burnsville	Voc., Agr.
Heathcote, William Richard	Morgantown	Fr., B.S.E.M.
Heavener, Chester Paul	Peterstown	1st Yr. Law
A.B., Washington & Lee University, 1912.		
Heber, Raymond John	New Martinsville	1st Yr. Law
Hechmer, Arthur Benedict	Grafton	Soph., A.B.
Hedrick, Forest William	Fort Spring	Soph., B.S.Agr.
Hedrick, Glenna Elizabeth	Alderson	Fr., A.B.
Heflin, John Frank	West Union	Fr., A.B.
Hefner, Arnold	Grafton	*Fr., B.S.Agr.
Heilman, Lewis	Weirton	Fr., A.B.
Heizer, William Thomas	Charleston	Fr., B.S.C.E.
Helmbright, Louis Patrick	Wheeling	Sen., B.S.Ch.E.
Henderson, Evangeline	Moundsville	Fr., A.B.
Henderson, Irene McComas	St. Albans	Soph., A.B.
Henderson, Mary Eloise	St. Albans	Fr., A.B.
Hendrickson, Lucile	Cumberland, Md.	Fr., B.S.H.E.
Henry, Burhyl Tillman	Morgantown	Soph., B.S.M.E.
Henson, Eleanor Elizabeth	Bunker Hill	Jun., A.B.
Hereford, John Withers	Hogsett	1st Yr. Law
Hermann, Harry Frederick	Triadelphia	*Fr., B.S.C.E.
Herold, Eugenia Pearle	Muddlety	*Fr., A.B.
Herold, George Dana	Persinger	*Fr., A.B.
Herron, Thomas Brown	Aspinwall, Pa.	*Fr., A.B.
Hersman, Marion Rockafeller	Grantsville	Jun., A.B.
Hertzog, Virgil Ross	Shinnston	1st Yr. Phar.
Hess, Bernard Leo	Clarksburg	Fr., A.B.
Hess, Beulah Ann	Mannington	Sen., B.S.H.E.
Hess, Paul Rex	Fairmont	Fr., B.S.E.E.
Hess, William Taylor	Morgantown	Fr., A.B.
Hibbs, George Edgar	Republic, Pa.	Fr, B.S.M.E.
Hibbs, Ward Wayne	Mannington	Sen., A.B.
Hickman, Laura Josephine	Morgantown	Soph., A.B.
Hicks, Areta Eudora	Webster Springs	Soph. A.B.
Hicks, Dana Minter	Webster Springs	*Fr., A.B.
Higgs, Ernest Everett	Charles Town	Sen., B.S.Agr.

Higgs, Mary Rachel	Parsons	*Fr., B.S.H.E.
Hileman, Virginia Frances	Rockbridge Baths, Va.	Soph., A.B.
Hill, Charles Montgomery	Charleston	Jun., B.S. E.E.
Hill, Franklin Herman	Middlebourne	Fr., A.B.
Hill, George Wilbur	Fairmont	Jun., B.S.C.E.
Hill, Gladys Sykes	Clarksburg	Jun., B.S.H.E.
Hill, Harry	Clayton	Jun., A.B.
Hill, Joseph William	Clayton	Soph, A.B.
Hill, Louis Hawes	Charleston	Soph., B.S.C.E.
Hill, McKinley Tennyson	Middlebourne	Soph . B.S.Agr.
Hill, Pierre Frederick	Fairmont	Fr., B.S.C.E.
Hilliard, John Orval	Morgantown	*Fr., A.B.
Himes, William Daniel	Shepherdstown	1st Yr. Law
A.B., West Virginia University, 1920.		
Hiner, Ralph McClung	Franklin	3rd Yr. Law
Hinerman, Chauncey Depew	Cameron	Fr., A.B.
Hix, Guy Frost	Shelbyville, Tenn.	*Fr., B.S.E.E.
Hoard, Wilda Beatrice	Morgantown	Fr., A.B.
Hock, Nelle Mildred	Bluefield	Sen., A.B.
Hodges, Lorentz Ryan	Charleston	Soph., B.S.E.M.
Hodgson, Margaret Ellis	Morgantown	Soph., A.B.
Hoff, William Bruce	Parkersburg	Soph., A.B.
Hoge, Elizabeth Stewart	Morgantown	Grad., A. & S.
A.B., West Virginia University, 1920.		
Hogg, William Bennett	Point Pleasant	2nd Yr. Law
Hogue, Frank William	Fairview	Jun., A.B.
Hoke, Dwight Moody	Second Creek	*Fr., A.B.
Holroyd, William McKinley	Athens	1st Yr. Law
Holt, Andrew Edwin	Weston	Fr., A.B.
Holt, Rush Dewey	Weston	Fr., A.B.
Holton, Thomas M.	Huntington	Voc., Agr.
Hood, Ralph Glen	Williamstown	Fr., A.B.
Hoover, Wendell Webster	Webster Springs	3rd Yr. Law
A.B., West Virginia University, 1920.		
Hopke, William Brew	Grafton	Soph., B.S.C.E.
Hopkins, James Thomas	Princeton	1st Yr. Phar.
Hopkins, John Cogley	Cameron	3rd Yr. Law
Hopkins, Martin Francis	Cameron	Jun., B.S.C.E.
Hopwood, Arthur Thomas	Mannington	Jun., A.B.
Hormell, Walter Harrison	Morgantown	Jun., B.S.M.E.
Horner, Warren Bartlett	Morgantown	Soph., A.B.
Hott, George David	Morgantown	Fr., A.B.
Hough, Roscoe Rhodes	Wellsburg	2nd Yr. Law
Hough, Scott	Wellsburg	Soph., B.S.M.E.
Houston, Patty	Cameron	Soph., A.B.
Howard, Ruth Anne	Cowen	Soph., A.B.
Huar, Nai Yong	Chiengmai, Siam	1st Yr. Med.
Huey, Lawrence George	Mannington	*Fr., A.B.
Huff, Ruth Clements	Parkersburg	Jun., A.B.
Huff, Shady Snow	Burnt House	Jun., B.S.H.E.
Hughart, James Franklin	Lewisburg	Fr., B.S.Ch.E.
Hughart, Robert	Morgantown	*Fr., A.B.
Hughes, Eva Florence	Parkersburg	Sen., A.B.
Hume, Emory McClung	Williamsburg	Fr., A.B.
Hummel, Edward William	Elm Grove	Voc. Agr.

Humphrey, Mabel Pemberton	Charleston	Fr., A.B.
Hunker, Carrie Belle	Clarksburg	*Fr., A.B.
Hunter, Dale Carlyle	Morgantown	Fr., A.B.
Hunter, Gladys	Morgantown	Special A. & S.
Hunter, Helen Elizabeth	Morgantown	*Fr., A.B.
Hustead, Ivy Ina	Fairmont	Jun., A.B.
Hutchenson, Frank Watkins, Jr.	Ronceverte	Soph., B.S.C.E.
Hutchins, Charles Ogden	Pleasant Valley	Fr., B.S.Agr.
Hutchinson, Charles Edgar	Morgantown	Fr., B.S.E.E.
Hutchinson, Edwin Berry	Ravenswood	Soph., B.S.E.M.
Hutchinson, Hickory Clay	Ravenswood	Sen., B.S.Agr.
Hutchinson, Kathryn Bird	Huntington	Jun., A.B.
Hutchinson, Mildred Matilda	Welch	Fr., A.B.
Hutchinson, Sarah Emma	Cameron	Sen., A.B.
Hutson, Clement Blair	Smithton	Soph., B.S.E.E.
Hutson, Ray	Salem	Soph., B.S.Agr.
Hyde, Richard Elkins	Martinsburg	Sen., A.B.
Hyer, John Hunter	Buckhannon	Special A. & S.
Hyman, Morton	Keystone	1st Yr. Law
Ice, Bernice Georgia	Morgantown	Fr., A.B.
Ice, Herschel Conaway	Fairmont	Soph., B.S.C.E.
Ireland, Frances Laone	Morgantown	Soph., A.B.
Irvine, Claude Abner	Grafton	Fr., A.B.
Jackson, Harvey Edward	East Bank	Soph., A.B.
Jackson, Nettie America	Lewisburg	Fr., A.B.
Jamison, Charles Martin	Morgantown	*Fr., B.S.Agr.
Jamison, Frank Robert	Fairmont	Fr., A.B.
Jamison, Georgia Garnet	Morgantown	Fr., A.B.
Jarrell, Milton	Oak Hill	Jun., B.S.C.E.
Jarvis, Allye Blanche	Weston	Soph., B.S.H.E.
Jeffreys, Edna Frances	Logan	Soph., B.S.H.E.
Jeffreys, Ruth Melvina	Logan	Soph., B.S.H.E.
Jeffries, Anna Chidester	Morgantown	Special A. & S.
Jenkins, Kathryn Virginia	Morgantown	*Fr., A.B.
John, Brinley	Morgantown	1st Yr. Med.
Johnson, Beatrice	Sutton	*Fr., A.B.
Johnson, Carl Edward	Thomas	Soph., A.B.
Johnson, Clyde Bosworth	Charleston	Fr., B.S.E.E.
Johnson, Edwin Snively	Franklin	Sp. Phar.
Johnson, Elenore Montgomery B.Sc., Denison University, 1920.	Newark, Ohio	Grad. A. & S.
Johnson, Laura Dale	Morgantown	Special A. & S.
Johnson, Rebecca	Keyser	Fr., B.S.H.E.
Johnson, Russell Ruddell	Fairmont	Fr., A.B.
Johnson, William Franklin	Welch	*Fr., A.B.
Johnston, Elizabeth	Elk Lick, Pa.	Soph., A.B.
Johnston, Jennie Elizabeth	Bluefield	*Fr., A.B.
Johnston, Jessie Lee	Morgantown	Soph., B.S.H.E.
Johnston, Mildred Bryant	Elkins	Jun., A.B.
Johnston, Olive Mae	Morgantown	Fr., A.B.
Johnston, Ross Bradshaw	Morgantown	Soph., A.B.

Johnston, Ruth Helene	Morgantown	Jun., A.B.
Jolliffe, Martha Ellen	Clarksburg	Fr., B.S.H.E.
Jolliffe, Norman Hayhurst	Morgantown	Soph., A.B.
Jones, Archibold Marion	Smithton	Soph., A.B.
Jones, George Tilghman	Rhodesdale, Md.	Voc. Agr.
Jones, Harold Pierpont	Fairmont	Fr., B.S.E.E.
Jones, Hugh Eckess	Fairmont	Soph., B.S.C.E.
Jones, John Paul	Fairmont	Fr., B.S.Ch.E.
Jones, Lucy Eleanor	Smithton	Sen., A.B.
Jones, Raymond Gordan	Fairmont	Soph., B.S.M.E.
Jordan, Charles Hugh	Hinton	*Fr, A.B.
Joyce, Edward Paul	Morgantown	Special Eng'g.
Judy, Marion Hendrickson	Petersburg	Special Phar.
Juergens, James Samuel	Sutton	Sen., B.S.C.E.
Juergens, Nancy Jane	Sutton	Fr., A.B.
Juhling, Florence Emmalyn	Hartford	Soph., A.B.
Kaltenbach, Clifton Joseph	Wheeling	Soph., B.S.Ch.E.
Kaltenbach, Harold Joseph	Wheeling	2nd Yr. Law
Kane, Geraldine	Weston	Jun., A.B.
Kaplan, Bertha	Morgantown	Jun., A.B.
Kay, Robert Harry Christopher	Leon	1st Yr. Law
Kaylor, John, Jr.	Graham Station	Fr., A.B.
Keefer, William Francis	Wheeling	2nd Yr. Law
Keener, George Ira	Weston	Soph., A.B.
Keener, Louise	Morgantown	Soph., A.B.
Kellerman, Marlin Warren	Mt. Gay	Fr., B.S.C.E.
Kelley, Albert Lee	Fairmont	Soph., B.S.M.E.
Kelley, Grace Gertrude	West Liberty	Jun., A.B.
Kelly, Ardafay Clara	Sutersville, Pa.	Sen., A.B.
Kelly, Robert Gorrell	Sutton	1st Yr. Law
Kendall, Harry Chauncey	Morgantown	Fr., A.B.
Kennedy, John Cruikshanks	Charleston	Soph., A.B.
Kennedy, Katie Marguerite	Sabraton	Soph., B.S.H.E.
Kennedy, Royce Wilbert	Reader	*Fr., B.S.C.E.
Kent, Arthur Glenn	Cameron	Soph., A.B.
Kern, Gaylord Johnson	Morgantown	Fr, B.S.E.E.
Kessel, Lora	Ripley	Fr., A.B.
Kessel, Oliver Dennis	Ripley	Fr., A.B.
Kessel, Russel	Ripley	Soph., A.B.
Keyser, Ethel Gertrude	Beckley	Sen., A.B.
Keyser, Virginia Dare	Beckley	Fr., A.B.
Keyton, Forest Henry	Dayton, Va.	Voc., Agr.
Kibble, Ernest Bliss	Harrisville	Fr., A.B.
Kidd, Grady Abshire	Hillsboro	Fr., B.S.Agr.
Kiger, Clem Bryan	New Martinsville	*Fr., B.S.Agr.
Kiger, Virginia Louise	Morgantown	Fr., A.B.
Kimmel, Charles Lemmel, Jr.	Grafton	*Fr., A.B.
Kimmel, Isabel Harriett	Grafton	Jun., B.S.H.E.
Kimmins, Helen Louise	Elm Grove	Jun., B.S.H.E.
Kincaid, Lester Henderson	Mulvane	Fr., B.S.C.E.
Kincaid, Roy Houston	Alderson	Voc., Agr.
King, Elsie Ethel	Sistersville	Fr. ,A.B.

King, Orr Rufus	Weston	Sen., A.B.
Kirkland, Matt Lockwood	New Martinsville	1st Yr. Phar.
Kizinski, Marian	Star City	Soph., A.B.
Klein, Leo	New York, N. Y.	Soph., A.B.
Knight, James Lloyd	Clarksburg	Soph., A.B.
Knight, John Forrest	Fairmont	Fr., A.B.
Knight, John Jarrett	Morgantown	Sen., B.S.M.E.
Knode, William Franklin, Jr.	Fairview	Sen., B.S.E.M.
Knopp, Virgil Sylvester	Parkersburg	*Fr., B.S.M.E.
Knutti, Ralph Eddy	Morgantown	Soph., A.B.
Kohler, Louis Hirsh	New Castle, Pa.	1st Yr. Med.
Kramer, Hunter Nickell	Ronceverte	*Fr., A.B.
Kramer, Samuel Emanuel	Perth Amboy, N. J.	Fr., A.B.
Krebs, Louis Theodore, Jr.	Morgantown	*Fr. B.S.C.E.
Knosnoff, John Alexander	Marianna, Pa.	Fr., A.B.
Kunkel, Ione Elizabeth	Wheeling	Soph., A.B
Kurtz, Kenneth Swan	Weston	Fr., A.B.
Kyle, Ernest Ide	Morgantown	Soph., A.B.
Kyle, William Richard	Huntington	Voc., Agr.
Laas, Albert William	Benwood	3rd Yr. Law
A.B., West Virginia University, 1920.		
Laas, Herman Christian	Benwood	Fr., A.B.
Laign, Paul Calvin	Hedgesville	Fr., A.B.
Laing, James Tamplin	Charleston	*Fr., A.B.
Lake, Troy Amor	Parsons	Soph., B.S.E.E.
Lakin, James Offutt	Charleston	Soph., A.B.
Lambert, Luther Rush	Morgantown	1st Yr. Med.
Lambert, Oscar Doane	Thomas	Grad. A. & S.
A.B., West Virginia University, 1916.		
Lambert, Wintford	Herndon	Voc. Agr.
Lambson, John Bonner	Circleville, Utah	Soph., A.B.
Lanham, Theresa Mary	Pennsboro	*Fr., A.B.
LaPoe, Albert Edward	Point Marion, Pa.	Soph., B.S.E.E.
LaRue, George William	Kingwood	*Fr., B.S.E.M.
Lashley, Rebecca Louise	Cumberland, Md.	Fr., A.B.
Law, Dennis Ison	Cairo	Sen., B.S.Agr.
Lawrence, Bert Gray	Maybeury	Fr., A.B.
Lawrence, Paul Andrew	Chula, Va.	Voc. Agr.
Lawson, Lee Winston	Williamson	*Fr., A.B.
Lawson, Lena	Williamson	Fr., A.B.
Lawson, Leon Kline	Auburn	Soph., A.B.
Lazear, Edis Eleanor	Mannington	Soph., A.B.
Lazenby, Jane Florence	Princeton	Fr., A.B.
Lazzell, Charles Lester	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1920.		
Lazzell, Rufus Glenn	Morgantown	Jun., B.S.E.M.
Lee, Reuben	Riley	Fr., B.S.E.E.
Lehman, William Parry	Fairmont	*Fr., B.S.M.E.
Lemley, Clark Frank	Star City	1st Yr. Med.
Lemley, Wilda May	Morgantown	Fr., A.B.
Lentz, Joseph Howard	New Martinsville	Soph., B.S.C.E.
LePera, Frances Margarita	Morgantown	Sen., A.B.
LePera, Mary	Morgantown	*Fr., A.B.

Lewellyn, Raymond Hibbs	Elm Grove	Soph., Med.
Lilly, Frank Otho	Hinton	Fr., A.B.
Lilly, Jennie June	Bluefield	Fr., A.B.
Lilly, Lois Elaine	Bluefield	Soph., A.B.
Limerick, Charles Thomas	Fairmont	Soph., B.S.M.E.
Lindamood, Freda	Parkersburg	Soph., A.B.
Linger, Maynard	Clarksburg	Jun., A.B.
Liston, Jesse Earle	Morgantown	Sen., B.S.Agr.
Livesay, Edward Russel	Lewisburg	*Fr., B.S.C.E.
Livingston, Frances Merilynn	Williamson	*Fr., B.S.H.E.
Livingstone, Charles	Clarksburg	Fr., A.B.
Lohman, Alfred William	Wheeling	Soph., B.S.Agr.
Lorant, Eva Marie	Morgantown	Fr., A.B.
Lorentz, Mary Belle	Wheeling	Soph., A.B.
Loudin, F. Marion	Pullman	*Fr., B.S.E.M.
Loudin, Sallie Fogg	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1920.		
Lough, Arthur Harvey	Morgantown	Jun., B.S.Agr.
Lough, Charles Melvin	Wheeling	Grad. Agr.
B.S., Agr., West Virginia University, 1920.		
Lovell, William Warner	Troy	Jun., B.S.Agr.
Lowe, Clarence Ray	Morgantown	Jun., B.S.E.E.
Lowenfish, Felix Philip	New York, N. Y.	1st Yr. Med.
Lowther, Genevieve	Clarksburg	Fr., A.B.
Lucas, Thomas Franklin	Horton	*Fr., B.S.E.E.
Luckey, Paul David	Dawson, Pa.	*Fr., A.B.
Lukens, Robert William	Wheeling	Soph., A.B.
Lundy, Melvin	Galax, Va.	Voc. Agr.
Lyall, Leslie Marshall	Morgantown	Soph., A.B.
Lynch, Winifred Virginia	Clarksburg	Fr., A.B.
Lynn, Mary Elizabeth	Republic, Pa.	Soph., A.B.
Lytle, Irvin Ross	State College, Pa.	Soph., B.S.Agr.
Macdonald, Donald	Huntington	*Fr., B.S.E.E.
Madeira, Martha	Morgantown	*Fr., A.B.
Madeira, William Bernard	Morgantown	Sen., A.B.
Madera, William Luther	Morgantown	Fr., A.B.
Mahan, Walter Everett	Follansbee	*Fr., A.B.
Mahaney, Clarence Russell	Morgantown	Soph., B.S.Ch.E.
Malcolm, Rachel Winslowe	Farmington	Soph., A.B.
Mall, Robert Aaron	Fairmont	*Fr., B.S.E.E.
Malloy, John Francis	Charleston	Soph., B.S.M.E.
Manley, Hugh Elton	Monongah	Soph., A.B.
Marcum, Leonard	Gary	Special Phar.
Marr, Norval Mason	Morgantown	1st Yr. Med.
March, John William	Wheeling	Fr., A.B.
Marshall, Edmund	New Cumberland	1st Yr. Law
Martin, Carman Ira	Maysville	Fr., A.B.
Martin, Charles McKinley	Narrows, Va.	Voc. Agr.
Martin, Eva Martitia	Bluefield	Soph., A.B.
Martin, Frank Marion	Moundsville	Fr., B.S.E.E.
Martin, Gertrude	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1920.		
Martin, Grace Alice	Shinnston	Sen., A.B.

Martin, Helen Mar	Enterprise	Jun., A.B.
Martin, Homer Chester	Charleston	Soph., A.B.
Martin, Hugh Burns	Farmington	*Fr., B.S.C.E.
Martin, James Lee, Jr.	Morgantown	1st Yr. Med.
Martin, Lilian Gertrude	Shinnston	Soph., A.B.
Martin, Mattie Elizabeth	Monongah	Soph., A.B.
Mason, Cloyd Alton	Elkins	Jun., B.S.M.E.
Mason, William Arthur Harrison	Philippi	1st Yr. Law
Matheny, Harry Arthur	St. Marys	Fr., A.B.
Mathews, Caddie Delaney	Cameron	*Fr., B.S.H.E
Mathews, Grayce Agatha	Cameron	Soph., B.S.H.E.
Mattern, Wilda	Franklin, Pa.	Soph., A.B.
Mattingly, Emma Pauline	Morgantown	Jun., A.B.
Mattson, Ellen Anna	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1915.		
Maust, Margaret Leone	Morgantown	Soph., B.S.H.E.
Mauzy, Michael Harper	Franklin	1st Yr. Law
A.B., West Virginia University, 1919.		
Maxwell, Cyrus Haymond, Jr.	Morgantown	Sen., B.S.Agr.
Maxwell, George Ralph	Morgantown	2nd Yr. Med.
May, Vera Theresa	St. Albans	Soph., B.S.H.E.
Mayfield, James Edward	Buckhannon	1st Yr. Phar.
Mayfield, Madge Emerson	Morgantown	Sen., B.S.H.E.
McAfee, Dean Monroe	Norfolk, Va.	Voc. Agr.
McCarl, Jennet	Clarksburg	*Fr., B.S.H.E.
McCaskey, Mildred	New Martinsville	Sen., A.B.
McCauley, William Deles	Moorefield	1st Yr. Law
McChesney, Alice Johnson	Charleston	2nd Yr. Law
McClue, Arthur Eugene	Clarksburg	Soph., A.B.
McClung, Alexander Keith	Rupert	Fr., B.S.E.M.
McClung, Wyatte Nelson	Rupert	Sen., B.S.Agr.
McClure, Andrew Robert	Wheeling	Jun., A.B.
McCoy, George Talbot	Sistersville	3rd Yr. Law
McCoy, Paul Edgar	Letart	Soph., B.S.Agr.
McCue, Ruth	Summersville	Jun., A.B.
McCullough, Bernard	Mole Hill	Fr., B.S.E.E.
McCullough, Carlton S. L.	Morgantown	2nd Yr. Med.
McCullough, Myrtle Mae	Morgantown	Grad. A. & S.
A.B., Ohio State University, 1919.		
McCurdy, John Alexander	Elm Grove	Fr., A.B.
McCutcheon, Randolph	Hominy Falls	1st Yr. Med.
McDaniel, Floyd	Williamson	Soph., B.S.Agr.
McDaniel, Marjorie Kathleen	Keyser	Fr., A.B.
McDermott, John Peter	Cameron	Sen., A.B.
McDonald, James Ernest	Inwood	Jun., B.S.Agr.
McDonald, Kenneth George	French Creek	Soph., B.S.Agr.
McDonald, Richard Clyde	Inwood	Soph., B.S.Agr.
McDonald, Ted Roy	Inwood	Voc. Agr.
McDonald, Verda Blanche	Morgantown	Sen., A.B.
McElfresh, Marvin Stewart	Point Pleasant	Fr., A.B.
McElrath, Margaret	Pierce	Fr., A.B.
McElrath, Mary Jessie	Pierce	Fr., A.B.
McFadden, Claude Ray	Harrisville	*1st Yr. Phar.
McFarland, Daniel Willard	Ravenswood	Jun., B.S.Agr.
McGary, George Bryan	Moundsville	Soph., A.B.

McGee, Sidney Lamont	Morgantown	Jun., A.B.
McGovern, James Patrick	Clarksburg	Fr., A.B.
McGranaham, Alice Virginia	Wheeling	Fr., A.B.
McGuffie, Otley Gayle	Littleton	Fr., B.S.E.E.
McGuire, Patrick Joseph	Webster Springs	Special Law
McInnis, Neil Ross	Dola	Soph., B.S.E.M.
McIntire, George Burton	Morgantown	Jun., B.S.Agr.
McIntosh, Frederick Frelinghuysen	Spencer	Jun., A.B.
McKee, John McDonald	Triadelphia	1st Yr. Law
McKee, Louis Alan	Triadelphia	2nd Yr. Law
McKee, William G. Smith	East Liverpool, Ohio	Fr., A.B.
McKenzie, Thomas Fulton	New Cumberland	1st Yr. Law
McKinley, Hoke	Weston	Voc. Agr.
McKinley, Lloyd Henry	Lost Creek	Special Law
McKinney, Lucile Marie	Morgantown	Fr., B.S.H.E.
McKinney, Myrtle Margaret	Fairmont	Fr., A.B.
McKisson, Elsie Alice	Sistersville	Soph., A.B.
McLain, Henry McColloch	Elm Grove	Sen., B.S.E.E.
McLane, Mary Josephine	Morgantown	Special A. & S.
McMillen, Edna Glenola	Masontown	Fr., A.B.
McMillen, Pauline	Moundsville	Soph., B.S.H.E.
McMorrow, Mary Magdalen	Glenden	*Fr., B.S.Agr.
McMurrer, Clement Anthony	Charleston	Sen., A.B.
McMurrer, Herbert Joseph	Charleston	Fr., A.B.
McNeil, Kathleen	New Cumberland	Jun., A.B.
McNeill, Mary Eilleen	Morgantown	Fr., B.S.H.E.
McNinch, Tencie Pauline	Moundsville	*Fr., A.B.
McVey, Howard Rodgers	Lewisburg	Soph., B.S.Agr.
Meadows, Cecil Alexander	Fireco	Fr., A.B.
Meek, Grace L.	Elm Grove	Soph., A.B.
Meek, John Robertson	Clator	Soph., A.B.
Meek, Thomas Harris	Clator	Jun., B.S.C.E.
Megrail, Lesta	Morgantown	Fr., B.S.H.E.
Mendelsohn, Rudolph Herman	Frostburg, Md.	Soph., B.S.E.E.
Meredith, Cora	Morgantown	Sen., A.B.
Meredith, Jamison	Fairmont	*Fr., B.S.C.E.
Meredith, Jesse Harker	Fairmont	Fr., B.S.Agr.
Meredith, Mildred Ann	Fairmont	Soph., A.B.
Meredith, Russell Delmar	Fairmont	Fr., B.S.Agr.
Messenger, Metta	Clarksburg	Soph., A.B.
Metz, Roy De Vaughan	Wallace	1st Yr. Med.
Michie, Arthur Thornton	Fairmont	*Fr., B.S.E.E.
Milburn, Azby Alexandria	Hinton	Fr., A.B.
Miles, French Lovett	Buckhannon	Jun., B.S.Agr.
Miles, Mabel	Buckhannon	Soph., A.B.
Miller, Alvin Martin	Jeannette, Pa.	Sen., B.S.M.E.
Miller, Edgar O'Dell	Blacksville	*Fr., B.S.E.E.
Miller, Eleanor Shafer	Terra Alta	Soph., B.S.H.E.
Miller, Fred Lothan	Cameron	Fr., A.B.
Miller, Gulie Alice	Huntington	Soph., B.S.H.E.
Miller, LeRoy Brooks	Morgantown	Soph., A.B.
Miller, Virginia Baker	Morgantown	Soph., A.B.
Miller, Willa Gladys	Blacksville	Soph., B.S.H.E.
Millican, William Samuel	Buckhannon	Voc. Agr.

Milligan, Lillie Margaret	Marlinton	Soph., A.B.
Milligan, Mary Maywood	St. Albans	*Fr., A.B.
Minor, Charles Donham	Morgantown	Sen., A.B.
Mitchell, Fred Oscar	Welch	Fr., B.S.E.E.
Mitchell, Granville Sydney	Huntington	Fr., B.S.C.E.
Mockett, Walter William	Swissvale, Penna.	1st Yr. Med.
Modi, Edward Joseph	Mannington	*Fr., B.S.E.E.
Moffett, Guy Arthur	Weston	Soph., B.S.E.E.
Moler, Raleigh Miller	Morgantown	Sen., B.S.
Monger, Ada Vance	Hastings	Fr., A.B.
Monger, Vashti Lee	Hastings	Fr., A.B.
Montani, Anthony Carmen	Youngstown, Ohio	2nd Yr. Med.
Montgomery, Allen Guy	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1917.		
Montgomery, Kathryn Nancy	West Liberty	Fr., A.B.
Montgomery, Mary Susan	Kingwood	*Fr., A.B.
Montgomery, Wilda Lea	Morgantown	Jun., A.B.
Montgomery, William Newton	Kingwood	*Fr., A.B.
Moomau, Virginia Dare	Green Bank	Fr., A.B.
Mooney, Laura Margaret	Bluefield	Sen., B.S.H.E.
Mooney, Mary Frasier	Bluefield	Sen., B.S.H.E.
Moore, Charles Edgar	Morgantown	Sen., A.B.
Moore, Ernestine May	Harrisville	Fr., A.B.
Moore, Harry Webster	Moundsville	Soph., A.B.
Moore, James William	Fairmont	*Fr., B.S.M.E.
Moore, John Norbert	Morgantown	Fr., A.B.
Moore, Leslie Darl	Belington	Jun., B.S.Agr.
Moore, Lois	Clarksburg	*Fr., B.S.H.E.
Moore, Martha Margaret	West Alexander, Pa.	Sen., A.B.
Moore, Mary Elizabeth	West Alexander, Pa.	Soph., A.B.
Moore, Walter Scott	Milton	Jun., B.S.E.M.
Moore, William Herbert	Charleston	Fr., B.S.Ch.E.
Moreland, Dora Marie	Davis	Soph., B.S.H.E.
Morgan, Claude Moore	Morgantown	*Fr., A.B.
Morgan, Emily Josephine	Morgantown	Soph., B.S.H.E.
Morgan, Ina	Cumberland, Md.	Jun., A.B.
Morgan, Jeannette	Mannington	Soph., B.S.H.E.
Morley, Burton Raymond	Charleston	Jun., A.B.
Morris, Alice Dulaney	Harrisville	Jun., A.B.
Morris, Emily Susan	Cumberland, Md.	Soph., A.B.
Morris, Mary Lucille	Milton	*Fr., B.S.H.E.
Morris, Stanley Clarence	Morgantown	3rd Yr. Law
A.B., Marietta College, 1914.		
Morris, Warren Francis	New Martinsville	Soph., A.B.
Morrison, Celestia Glee	Clarksburg	Fr., A.B.
Morrison, Helena	Sutton	Fr., B.S.H.E.
Morrison, Lewis French	Morgantown	Special A. & S.
Mortan, Mary Vivian	Webster Springs	Fr., A.B.
Morton, Stephen Dixon	Camden-on-Gauley	*Fr., A.B.
Moser, Charles Yarnall	Terra Alta	Fr., A.B.
Motta, Peter George	Carnegie, Pa.	1st Yr. Med.
Moyle, Eugene Henry	Elkins	Fr., A.B.
Muhleman, Gail Elizabeth	New Martinsville	Fr., A.B.
Muhleman, Gladys Grey	New Martinsville	Jun., A.B.
Muldoon, Gertrude Virginia	Shepherdstown	Jun., B.S.H.E.

Mullan, George Oscar	Piedmont	Soph., B.S.Agr.
Mullen, Robert Emmett	Huntington	Sen., B.S.E.E.
Muncy, John Woolvine	Avondale	Soph., A.B.
Murphy, Bernard Gale	Morgantown	*Fr., A.B.
Murphy, Michael Jennings	Runa	Soph., A.B.
Murphy, Victor Byrne	Clay	Soph., A.B.
Murray, Ella Louise	Hutchinson	Soph., A.B.
Myers, Emma Frances	Summersville	Sen., A.B.
Myers, Hu Crim	Philippi	*Fr., A.B.
Myers, Ira Odell	Grafton	Soph., B.S.C.E.
Myers, Karl Johnson	Philippi	2nd Yr. Med.
Mynes, Leo Howard	Charleston	1st Yr. Med.
Nale, Helen Elizabeth	Morgantown	Soph., A.B.
Nale, Ruth Leyman	Morgantown	*Fr., B.S.H.E
Nale, Thomas William, Jr.	Morgantown	1st Yr. Med.
Nash, Edwin Mann	Alderson	*Fr., B.S.E.E.
Neal, Leonard Esker	Clarksburg	Fr., A.B.
Nease, Gifford Stuart	Charleston	Fr., B.S.E.E.
Neely, Forest Hunter	Fairmont	Sen., B.S.E.M.
Neely, Mary	Jane Lew	Soph., A.B.
Neff, Charles Thompson, Jr.	Piedmont	Sen., A.B.
Nefflin, Edgar Lance	Elkins	Fr., A.B.
Nefflin, Paul Ewald	Elkins	Sen., B.S.Agr.
Nefflin, William Elliott	Keyser	Sen., A.B.
Neiberg, Carlton Maurice	Pittsburgh, Pa.	1st Yr. Med.
Neifeld, Harold	Brooklyn, N. Y.	Soph., A.B.
Nelson, Roy Ezekiel	Independence	Sen., B.S.C.E
Nelson, Sarah Louise	Morgantown	Fr., A.B.
Nestor, Edna Lee	Elkins	Soph., A.B.
Nestor, Parker Waitman	St. George	Voc. Agr.
Newcome, James Arthur	Keyser	Soph., A.B.
Newcomer, Mabel	McClellandtown, Pa.	Fr., A.B.
Newcomer, Ward Edwin	McClellandtown, Pa.	2nd Yr. Med.
Newell, Rachel Estella	Chester	Fr., A.B.
Newton, Hugh	Morgantown	Special A. & S.
Ney, Glenn Morris	Morgantown	*Fr., A.B.
Nicholls, Sterling Wentzel	Morgantown	Fr., B.S.E.E.
Nicholson, Somerville	Ridgeley	1st Yr. Law
Nida, Minna Almeda	Sweetland	Fr., A.B.
Niedermeyer, Helen Louise	Wheeling	Fr., A.B.
Nightingale, Gordon Thayer	Moosup, Conn.	Grad. Agr.
B.S., New Hampshire State College, 1919.		
Nutter, Chauncey Darrell	Pennsboro	Fr., A.B.
O'Brien, Johnie Maye	Spencer	Fr., A.B.
Oliver, Eva Lucille	Greenbank	Fr., A.B.
O'Malley, Mary Gladys	Morgantown	Fr., A.B.
Orr, John Lewis	Clarksburg	Fr., B.S.M.E.
Orr, William Otto	Morgantown	Special Law
Osborne, Majorie Willard	Davis	Fr., A.B.
Owens, Ivan Clarke	Ivan	Jun., B.S.Agr.

Paden, William Doremus	Parkersburg	Fr., A.B.
Palmer, Catherine Little	Cumberland, Md.	Fr., A.B.
Pancake, McDowell	Romney	Sen., B.S.Agr.
Parish, Doris Love	Worthington	*Fr., A.B.
Park, Harwood Chancellor	Ravenswood	Fr., A.B.
Park, Robert Kirk	Ravenswood	Soph., B.S.E.E.
Parker, Charles Carlos	Pickaway	*Fr., B.S.Agr.
Parker, Paul Edward	Clarksburg	Soph., B.S.C.E.
Parrish, John Clossen	Spencer	Voc. Agr.
Parsons, Anna	Proctor	Fr. A.B.
Patt, Ralph	Morgantown	Soph.. B.S.C.E.
Patterson, Katherine Moore	Clarksburg	Fr., A.B.
Patterson, Mabel Fay	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1917.		
Patterson, Maud Allender	Morgantown	Special
B.S.H.E., West Virginia University, 1920.		
Patterson, Thomas Shaffer	State College	Grad. Eng'g.
B.S.M.E., West Virginia University, 1910.		
Paul, Charles Ferguson	Wheeling	Soph., A.B.
Payne, Grace Fleming	Hedgesville	Sen., A.B.
Payne, Marie Kizzie	Oak Hill	Fr., A.B.
Payne, Richard Franklin	Philippi	Sen., B.S.Agr.
Payne, Roxie Agnes	Bridgeport	Jun., A.B.
Pell, Van Elmis	Masontown	Soph., B.S.Agr.
Pena, Sergio Silvio	Humacao, Puerto Rico	Soph., A.B.
Pendleton, Roscoe Hale	Princeton	Fr., A.B.
Pennington, Gladys	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1918.		
Pentony, Hilda Vivian	Tunnelton	Fr. A.B.
Perry, Mary Martha Isabel	Halltown	Fr. A.B.
Perry, Raymond Edwin	Charleston	Fr., B.S.C.E.
Peters, Columbus Floyd	Grafton	Soph., A.B.
Peterson, Arthur Horn	Romney	Soph., B.S.E.E.
Pettigrew, Harry Alford	Morgantown	Soph., A.B.
Pettigrew, Helen Purinton	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1913.		
Petty, Louise Kirk	Hartford	Jun., A.B.
Pew, Noel Lorentz	Pennsboro	Fr., B.S.M.E.
Phares, Eddie Brison	Riverton	Fr., B.S.Agr.
Pharr, Percy Paul	Gap Mills	Fr., A.B.
Phillips, Earl Strawn	Wheeling	Jun., A.B.
Phillips, Kenneth Hearons	Mannington	Fr., B.S.M.E.
Pierpont, Paul Kenneth	Fairmont	Fr., B.S.M.E.
Pippin, Irene Mae	Morgantown	Jun., A.B.
Pitman, Robert Edward	Bacon's Castle, Va.	Voc. Agr.
Pitsenberger, Charles Ezra	Pool	Soph., B.S.E.E.
Pitsenberger, Ira Albert	Pool	Fr., B.S.E.E.
Pittsford, Columbus Celic	Charleston	Fr., A.B.
Polan, Ida Meyers	Charleston	Fr., A.B.
Polan, Jacob Bernard	Charleston	*Fr, A.B.
Poling, Forrest Blanchard	Philippi	Sen., A.B.
Polsue, William Clewell	Charleston	Soph., A.B.
Pool, Willard Rezin	Charleston	2nd Yr. Law
Porter, James Robert	Weston	Fr., B.S.Agr.
Porter, Lloyd Garrison	Oak Hill	Soph., B.S.Ch.E.

Posten, Beulah Martha	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1917.		
Posten, Hale Judson	Morgantown	Fr., A.B.
Posten, Lillian	Morgantown	Fr., A.B.
Potter, Helen Salome	West Union	Jun., A.B.
Poundstone, James Stanly	Fairmont	Voc. Eng'g.
Prather, Fonzo	Burnt House	2nd Yr. Med.
Preiser, Benjamin	Charleston	Sen., B.S.Ch.E.
Price, Arthur Clyde	Smithfield	Soph., B.S.E.E.
Price, Charles Sanford	Uffington	Soph., B.S.Agr.
Price, John Raymond	Morgantown	Sen., A.B.
Price, Lando Forrest	Wilsonburg	Voc. Agr.
Price, Mabel Wilma	Morgantown	Soph., A.B.
Price, Paul Holland	Morgantown	Soph., A.B.
Price, Thomas Burton	Bolair	Voc. Agr.
Price, William Spencer	Morgantown	Sen., B.S.E.M.
Pride, Cecil Ben	Fairmont	Sen., B.S.
A.B., Ohio Wesleyan University, 1916.		
Prince, Elmar Woodward	Morgantown	Sen., B.S.E.E.
Prove, George Washington	Elkton, Va.	Sen., B.S.Ch. E.
Pugh, Griffith Cyril	Morgantown	Fr., B.S.E.E.
Pugh, Joseph Lawrence	Morgantown	Soph., B.S.C.E.
Pullen, Jesse Powers	Martinsville, Va.	Voc. Agr.
Pyle, Frank James	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1916.		
Pyles, Frederick Ray	Huntington	Fr., B.S.E.M.
Pyles, John W.	New Martinsville	*Fr., A.B.
Quinlan, John James Nelson	Huntington	*Fr., A.B.
Quinn, James Michael	Tunnelton	Fr., A.B.
Quisenberry, Ray Woolfork	Hinton	Soph., B.S.Ch.E.
Raemsch, Lawrence Edwin	Elkins	Soph., A.B.
Ramsay, Harry James	Mt. Pleasant, Pa.	Soph., B.S.C.E.
Ramsburg, Bernard Frederick	Weston	Fr, B.S.Agr.
Ramsey, Arlie Wayne	Morgantown	Fr., A.B.
Ramsey, Cecil Lyle	Victor	Voc. Phar.
Ramsey, Frank Burt	Mt. Lookout	*Fr., B.S.E.E.
Randall, George Fleming	Shinnston	Sen, AB.
Randolph, Gladys Elizabeth	Salem	Fr., A.B.
Rankin, Vernon Edwin	Berkeley Springs	1st Yr. Med.
Ray, Bonnie	Elkins	Soph., A.B.
Read, Thomas Leigh	Hinton	1st Yr. Law
Reay, Margaret Virginia	Morgantown	Soph., A.B.
Rector, Mary Edna	Clarksburg	Fr., B.S.H.E.
Reddington, Lawrence Edward	Charleston	Fr., B.S.M.E.
Reed, Charlotte Hellice	Williamstown	Fr., B.S.H.E.
Reed, Elizabeth Estelle	Morgantown	*Fr., A.B.
Reed, Hobart	Berkeley Springs	Fr., B.S.Agr.
Reed, Thomas Godfrey	Needmore	Fr., A. B.
Reed, William Eugene	Morgantown	*Fr., A.B.
Reeder, Benjamin Garnet	Morgantown	Sen., A.B.
Reeder, Hortense	Imperial, Pa.	*Fr., A.B.
Rees, John Wendell	Welch	Soph., B.S.E.M.

Reineke, Chester Edward	Wheeling	Special Phar.
Reith, Colin Wyland	Kingwood	Fr., A.B.
Reppard, Lawrence	Middlebourne	Fr., A.B.
Reynolds, Eleanor Mae	Cameron	Fr., A.B.
Reynolds, Frances Elizabeth	Grape Island	Soph., B.S.H.E.
Reynolds, Kathryn Suit	Keyser	Sen., A.B.
Reynolds, Knight	Keyser	Fr., A.B.
Reynolds, Lester	Keyser	Soph., A.B.
Reynolds, Vivian Gordon	Grafton	Sen., A.B.
Rhoades, Esther Elizabeth	Mt. Pleasant	Fr., A.B.
Rhodes, Roy	Williamson	Fr., A.B.
Rhorabough, Thomas Albert	Belington	Soph., B.S.Agr.
Rice, Lacy Isaac	Berkeley Springs	*Fr., B.S.Ch.E.
Rice, Worth Kirkwood	Berkeley Springs	Soph., A.B.
Richards, Arthur Thomas	Morgantown	Soph., B.S.E.E.
Richards, George Cochran	Piedmont	2nd Yr Law
Richards, Virginia Sara	Cumberland, Md.	Fr., B.S.H.E.
Richardson, Charles Joseph	Sistersville	Sen., A.B.
Riddle, Hugh Dillard	Davis	Sen., A.B.
Riddle, Nathan Gilbert	Davis	Jun., A.B.
Riddle, Walter	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1917.		
Rider, Elinor Virginia	Halltown	Fr., A.B.
Rider, Thomas	Sutton	*Fr., A.B.
Ridgeway, Frances Marie	Morgantown	*Fr., B.S.H.E.
Ridings, Virginia Ellen	Morgantown	Fr., A.B.
Riffe, Clark Summers	Hinton	*Fr., B.S.E.E.
Riffe, Margaret Keenan	Charleston	Fr., A.B.
Riggle, Gail Hannah	Middlebourne	Fr., B.S.H.E.
Riggle, Harold Engle	Middlebourne	Jun., B.S.M.E.
Riggle, Herbert Lee	Middlebourne	Soph., B.S.Agr.
Riggle, Herman B.	Middlebourne	Soph., B.S.M.E.
Riggs, Emily Esther	Morgantown	Sen., A.B.
Riggs, Frances Mildred	Morgantown	Sen., A.B.
Riley, Dorman N.	Waterloo, Va.	Voc. Agr.
Riley, Robert Joseph	Wheeling	1st Yr. Law
A.B., Georgetown University, 1920.		
Rinard, Lillian Elaine	Grafton	Fr., A.B.
Risher, Pearl Alda	Morgantown	Fr., B.S.H.E.
Ritchie, William Smith	Ravenswood	Jun., B.S.C.E.
Roach, Harold Hervey	New Cumberland	Soph., A.B.
Robb, Helen Madeline	Morgantown	*Fr, A.B.
Robbins, Ola	Mannington	Soph., B.S.Ch.E.
Roberts, Charles Emmett	Morgantown	Fr., A.B.
Roberts, Ethel	Monessen, Pa.	Fr., A.B.
Roberts, James Egbert	Charleston	Soph., A.B.
Roberts, Louis Rorer, Jr.	Parkersburg	Fr., B.S.E.M.
Roberts, William Ernest	St. Albans	Soph., A.B.
Robinson, Clara Lenore	Morgantown	Jun., A.B.
Robinson, Forrest	Elkins	Fresh., B.S.E.E.
Robinson, Frank Orcutt	Point Pleasant	Fr., A.B.
Robinson, Harry Grayden	Philippi	Jun., A.B.
Robinson, Harry Walker	Smithfield, Pa.	Fr., A.B.
Robinson, Wallace Frederick	Spotsylvania, Va.	Voc. Agr.

Roby, Clarence	Petersburg	3rd Yr. Law
A.B., West Virginia University, 1919.		
Roby, Hobart	Petersburg	Soph., A.B.
Rock, Herman Obenshein	Troutville, Va.	Voc. Agr.
Rockey, John Perry	Asbury Park, N. J.	Fr., A.B.
Roden, Harry	St. Marys	Fr., A.B.
Rodgers, Harold William	Clarksburg	Soph., B.S.M.E.
Rodgers, Ronald Earl	Mount Hope	Fr., B.S.E.E.
Rodgers, Margaret Neville	Morgantown	Sen., A.B.
Rohrabaugh, John Henry	Berkeley Springs	Grad. A. & S.
B.S. Davis and Elkins College.		
Rohrbough, Leone	Belington	Soph., A.B.
Rokos, Marcalus Matthew	Morgantown	Sen., B.S.M.E.
Rolley, Guy Clare	Morgantown	Fr., B.S.E.E.
Rollins, Herman Dennis	Toneyfork	Fr., A.B.
Ropp, Clarence Daniel Luther	Martinsburg	Sen., A.B.
Rose, Edythe Oella	Morgantown	Fr., A.B.
Rose, Hugh Carlyle	Parkersburg	Soph., B.S.Agr.
Rosier, Robert	Fairmont	Fr., B.S.M.E.
Roth, Emanuel	Brooklyn, N. Y.	Fr., A.B.
Rothlisberger, Floyd Frederick	New Martinsville	*Fr., B.S.Agr.
Rotruck, Arnold	Moorefield	Soph., B.S.M.E.
Roush, George Harold	Fairmont	Sen., A.B.
Roush, Mary Irene	Fairmont	Fr., B.S.H.E.
Rowe, Estelle	Myersdale, Pa.	Fr., A.B.
Rowland, Joseph Kins	Princeton	Soph., A.B.
Rowley, Homer King	Shinnston	Jun., B.S.Agr.
Rumble, Allen Nace	Clarksburg	*Fr., B.S.Agr.
Runner, Delmar Gaston	Morgantown	Fr., B.S.C.E.
Ruttencutter, Lucille Ida Christine	St. Marys	Fr, A.B.
Ryan, Paul Francis	Mannington	Jun., B.S.C.E.
Ryan, William St. Clair	Spencer	1st Yr. Law
Rymer, Grace Deyerle	Middlebourne	*Fr., A.B.
Rymer, Nelle Barbara	Middlebourne	Soph., B.S.H.E.
Rymer, Olive Cregg	Mannington	*Fr., B.S.H.E.
Sabrovitch, Paul	Yale, Va.	Voc. Agr.
Salvati, Leo Harry	Monogah	1st Yr. Med.
Salvati, Raymond Earnest	Monogah	Jun., B.S.E.M.
Sander, John William	Wheeling	Soph., B.S.Ind.E.
Sanders, Carl Custer	Philippi	2nd Yr. Law
A.B., West Virginia University, 1920.		
Sanders, Joseph McDonald, Jr.	Bluefield	3rd Yr. Law
Sanderson, Alene Regina	Elkins	Jun., A.B.
Sangston, James Polk	McClellandtown, Pa.	1st Yr. Phar.
Sankbeil, William Frank	Sabraton	Voc. Agr.
Sapp, Mary Louise	Morgantown	Jun., A.B.
Sapp, Virginia Dare	Morgantown	Fr., A.B.
Satterfield, Herman Ball	Parkersburg	Fr., B.S.Agr.
Saurborne, Sylvia Barnes	Bridgeport	2nd Yr. Med.
Savage, Joseph Whitney	Charleston	Fr., A.B.
Sayre, Floyd McKinley	Ripley	2nd Yr. Law
A.B., West Virginia University, 1920.		
Schaber, Frederick Harry	Wheeling	Soph., A.B.

Schamp, Anna Elizabeth	New Martinsville	Fr., A.B.
Schlens, Fred Alexander	Morgantown	Fr., A.B.
Schnopp, Walter Clinton	Hazelton	Special Agr.
Schramm, Alberta Viola	Cumberland, Md.	Fr., B.S.H.E.
Schroeder, Clarence Frederick	Grafton	Soph., A.B.
Schultz, Mary Jeannette	Morgantown	Fr., B.S.H.E.
Scott, Grace Elinore	Morgantown	Sen., A.B.
Scott, Parry Mason	Morgantown	2nd Yr. Med.
Seamon, Anna Thelma	Morgantown	*Fr., B.S.H.E
See, Arthur Andrew	Brake	Voc. Agr.
Selbe, Paul Burton	St. Albans	Soph., B.S.Ch.E.
Selby, Allen Luther	Morgantown	Voc. Agr.
Selby, Harlan Bovell	Fairmont	Jun., A.B.
Selby, Mildred Virginia	Morgantown	Soph., A.B.
Selden, Eleanor Worthington	Ranson	*Fr., A.B.
Sellers, Eugene Brownfield	Morgantown	*Fr., A.B.
Setron, Joseph Louis	Parkersburg	Soph., B.S.M.E.
Sevy, Heber Powell	Oak Hill	Soph., B.S.Agr.
Shaffer, James Harvey	Morgantown	Sen., B.S.Agr.
Shaid, Evelyn Sue	Elkins	Fr., A.B.
Shaid, Florence Anne	Elkins	Fr, A.B.
Shanabarger, Virginia	Grafton	*Fr., B.S.H.E.
Sharp, George Winters	Marlinton	Special Law
Sharpe, William Malcolm	Huntington	Fr., B.S.M.E.
Sharps, Amos Beaty	Lumberport	Fr., A.B.
Shaver, Paul Vincent	Robertsdale, Pa.	*Fr., B.S.M.E.
Shaw, Dora Meta	McClellandtown, Pa.	Fr., A.B.
Shaw, Victor Harry	Fairmont	2nd Yr. Law
Shawver, John William	Charleston	Fr., A.B.
Shay, Paris	Tunnelton	Sen., A.B.
Sheets, Paul Farris	Bridgeport	Fr., A.B.
Sheffer, Ralph Lin	Huntington	Sen., B.S.E.E.
Shelton, William McCorkle	Clay	Fr., A.B.
Sherman, Maurice Aaron	Hazelwood, Pa.	1st Yr. Med.
Sherrard, Flora Adele	Weston	Fr., B.S.H.E.
Shinn, Hugh Sherwood	Belington	Jun., B.S.E.E.
Shinn, Mille Adell	Long, Md.	Fr., B.S.H.E.
Shirey, Mary Marshall	Union	*Fr., A.B.
Shirey, William Brown	Union	Sen., A.B.
Shomaker, Lloyd Carlton	Morgantown	*Fr., B.S.Agr.
Shore, Ernest Luke	Keyser	Soph., A.B.
Shore, Henrietta Margaret	Keyser	Fr., A.B.
Shore, John James	Parkersburg	*Fr., B.S.Agr.
Short, Alexander Walker, Jr.	Hanging Rock, Ohio	Voc. Agr.
Shorter, Paul McKeney	Brookneal, Va.	Voc. Agr.
Shott, Hugh Isaac, Jr.	Bluefield	Fr., A.B.
Shrewsbury, Hobart Graham	St. Albans	Soph., B.S.E.E.
Shriver, Allie Pauline	Morgantown	Sen., A.B.
Shugart, Gervis Gardner	Harper's Ferry	Fr., B.S.E.E.
Shughrou, James Leo	Ronceverte	Sen., B.S.C.E.
Shughrou, Nelle	Ronceverte	1st Yr. Med.
Shuttleworth, Lucy Adline	Morgantown	Sen., A.B.
Shuttleworth, Wayne Stacy	Fairmont	Sen., A.B.
Sigler, Percy Alen	Piedmont	Soph., B.S.Ch.E.

Simanofsky, Joseph Jacob	Cleveland, Ohio	1st Yr. Med.
Simmons, Hazel Louise	Spencer	Fr., A.B.
Simmons, Jesse Howard	Franklin	*Fr., B.S.Agr.
Simon, Fred Stewart	New Cumberland	*Fr., A.B.
Sinclair, Donald Brown	Wheeling	1st Yr. Phar.
Sine, Hiram Kent	Blacksville	Fr., A.B.
Skaggs, Pauline Thelma	Summersville	Jun., A.B.
Skarzinski, Stanley	Monongah	Soph., A.B.
Smallwood, William Earl	Bays	Voc. Agr.
Smith, Earl Weese	Morgantown	Fr., A.B.
Smith, Edwin Garrison	Wadestown	*Fr., BS.M.E.
Smith, Emmett Irwin	West Union	Jun., B.S.Agr.
Smith, Georgina	Morgantown	Sen., A.B.
Smith, Hallie Morris	Daniels	Fr., A.B.
Smith, Hattie May	Flemington	Jun., A.B.
Smith, Homer Lee	Chester	Soph., B.S.M.E.
Smith, Hosea Alexander	Cowen	Soph., B.S.Agr.
Smith, Howard Carrollton	Grafton	Sen., B.S.Agr.
Smith, Howard Willis	Elkins	Special Phar.
Smith, James Albert, Jr.	Albert	Fr., B.S.C.E.
Smith, Mary Elizabeth	Flemington	Soph., A.B.
Smith, Mattie Mary	White Sulphur Sp'gs	Fr., A.B.
Smith, Mildred	St. Marys	Soph., A.B.
Smith, Paul Amos	West Union	*Fr., B.S.C.E.
Smith, Paul Leroy	Cumberland, Md.	Fr., B.S.M.E.
Smith, Ruth Olive	Grafton	Soph., B.S.H.E.
Smith, Sherman	Shively	Voc. Agr.
Smith, Uneva	Morgantown	Sen., A.B.
Smyth, Olin Darius	Morgantown	Soph., B.S.M.E.
Smyth, Walter Alexander	Sistersville	Soph., B.S.M.E.
Snaith, Theresa Ora	Weston	Sen., B.S.
Snider, Elsie Kilbreth	Keyser	Fr., A.B.
Snodgrass, Clifford Dearborn	Smithfield	*Fr., B.S.E.E.
Snodgrass, Kennis Ketterer	Mannington	Fr., A.B.
Snodgrass, Pearl	Smithfield	Fr., A.B.
Snooks, Rupert John	Powellton	Soph., B.S.Ch. E.
Snyder, Arthur Gail	Morgantown	*Fr., B.S.Agr.
Snyder, Charles	Hundred	Soph., B.S.E.E.
Snyder, Harry Lambright	Shepherdstown	Soph., A.B.
Snyder, Melvin Claude	Albright	1st Yr. Law
Snyder, Virginia Ruhamah	Morgantown	Sen., A.B.
Sommer, Karl Frederick	Sutton	Fr., B.S.M.E.
Sommer, Paul Harrison	Sutton	Sen., B.S.E.E.
Spangler, Pauline Richardson	Romney	Soph., A.B.
Specht, Randolph Chillian	St. Albans	Fr., B.S.Ch.E.
Spelsberg, Walter	Clarksburg	Soph., A.B.
Spencer, Kahle Evans	Middlebourne	Fr., A.B.
Spero, Gerald David	Youngstown, Ohio	2nd Yr. Med.
A.B., Adelbert College, 1920.		
Spiker, Mabel McMillen	Morgantown	Soph., A.B.
Spindler, Garold Ralph	Kingwood	Fr., A.B.
Sprigg, Frances Catherine	Holly	Fr., B.S.H.E.
Springston, Hal Beecher	Ravenswood	*Fr., B.S.E.E.
Staeck, Felix Cecil	McMechen	1st Yr Med.

Staley, James Henry	Kenova	*Fr., Phar.
Starcher, Everett Hanley	Ripley	Soph., A.B.
Starcher, Harold Eugene	Ripley	*Fr., A.B.
Starkey, Gladys Helena	Ravenswood	Fr., B.S.H.E.
Stealey, Frances Norton	Clarksburg	Sen., A.B.
Steele, Ernest Clark	Morgantown	Fr., A.B.
Steele, French	St. Marys	*Fr., B.S.Agr.
Steele, Tie Ernest Newton	Hebron	Soph., B.S.Agr.
Steere, Mabel Virginia	St. Marys	*Fr., A.B.
Stein, George Alvin	Wheeling	Soph., B.S.Ch.E.
Stenger, Leo Edward	Morgantown	2nd Yr. Med.
Stephens, Harry Helferstay	Martinsburg	Fr., B.S.C.E.
Stephens, Myrtle	Parkersburg	*Fr., A.B.
Stephens, Tracy Ralston	Morgantown	Soph., B.S.C.E.
Stephenson, Opal Evelyn	Weston	Soph., B.S.H.E.
Stevens, Edith	Metz	Sen., A.B.
Stevens, Gilbert Troy	Fairmont	Voc. Agr.
Stewart, James Warren	Clarksburg	Jr., B.S.E.M.
Stewart, Joseph Dale	Fairmont	Fr., A.B.
Stewart, Lenna Fay	Wilbur	Soph., A.B.
Stewart, Mary	Morgantown	Jun., A.B.
Stewart, Merrie Marguerite	Morgantown	Sen., A.B.
Stewart, Orval Lee	Morgantown	*Fr., B.S.M.E.
Stewart, Otis Gayle	E. Clarksburg	Sen., B.S.E.M.
Stickler, Charles Lester	Oak Hill	Fr., B.S.Agr.
Stickler, Merton Harvey	Oak Hill	Soph., B.S.C.E.
Stobbs, Henry Alpheus	Wheeling	Jun., B.S.Ch.E.
Stockdale, Charles Ellsworth	Morgantown	Grad. Agr.
B.S., Agr., West Virginia University, 1916.		
Stockert, Ida Clay	Burnsville	Jun., B.S.H.E.
Stollings, Garnette Jennings	Stollings	Soph., B.S.E.M.
Stone, Erwin Bowman	Morgantown	1st Yr. Law
A.B., West Virginia University, 1920.		
Stone, Frederic Arol	Morgantown	Soph., A.B.
Stout, Alexander	Clarksburg	Fr., A.B.
Stout, Malden Dallas	Clarksburg	Sen., A.B.
Strader, Audra Dow	Buckhannon	Voc. Agr.
Straight, Hazel Roberts	Mannington	Fr., A.B.
Straight, Herschel Bryan	Rivesville	Soph., B.S.Agr.
Straight, Joseph J.	Rivesville	*Fr., B.S.Agr.
Strother, Elbert Carlon	Weston	*Fr., A.B.
Strother, Lucinda Margaret	Weston	Soph., B.S.H.E.
Stuckey, Forrest Noble	Martinsburg	Fr., B.S.C.E.
Stuckey, Harry Jeremiah	Hedgesville	Grad. A.B.
A.B., West Virginia University, 1916.		
Stump, Golden June	Stumptown	Jun., B.S.H.E.
Stump, James Adam	Romney	Soph., B.S.C.E.
Stump, Katharine Casey	Romney	Soph., B.S.H.E.
Stump, Mary Virginia	Romney	Jun., A.B.
Stump, Noah Franklin	Yoe, Pa.	Sen., B.S.Ind.Eng.
Stump, Wilbur Dale	Charleston	Soph., B.S.C.E.
Sturgiss, Margaret	Morgantown	Fr., A.B.
Sturm, Harry Gail	Enterprise	Sen., B.S.Agr.
Sturm, Minnie Lorene	Enterprise	Jun., A.B.
Stutz, William Jacob	New Castle, Pa.	2nd Yr. Med.

Sullivan, Reginald	Clarksburg	Fr., B.S.M.E.
Summers, Festus Paul	Lockwood	Soph., A.B.
Summers, John Charles	Charleston	*Fr., B.S.M.E.
Sutherland, George Charlton	St. Albans	*Fr., B.S.M.E.
Swan, Mary Frances	Middlebourne	*Fr. A.B.
Swann, Clarence Calvary	Barboursville	Voc. Agr.
Sweeney, Anne Wilson	Williamstown	Fr., A.B.
Swisher, Lewis Carl	Lost Creek	Fr., A.B.
Swisher, Thomas Hyer	Sutton	Jun., B.S.M.E.
Tabler, Lee Douglass	Martinsburg	Soph., B.S.E.E.
Tahaney, Mary Rebecca	Keyser	*Fr., A.B.
Talbott, Agnes Gertrude	Fairmont	Soph., B.S.H.E.
Talbott, Esker Wayne	Philippi	Sen., A.B.
Talbott, Richard Bosworth	Elkins	1st Yr. Med.
Tallman, Charles Cameron	Beech Hill	*Fr., B.S.Agr.
Tanner, Gerald Darland	Reedsville	Jun., A.B.
Tarbell, William Edward	Baltimore, Md.	Voc. Agr.
Tarr, Helen Elisabeth	Morgantown	Sen., A.B.
Taylor, Clarence Thiers	Elm Grove	Soph., B.S.M.E.
Taylor, Harry Reeves	Keyser	Fr., A.B.
Taylor, Kenton	Charleston	Fr., B.S.C.E.
Taylor, Lynn Arden	Masontown	Sen., B.S.Agr.
Taylor, May Jackson	Elkins	Jun., A.B.
Taza, Leon James	Kane, Pa.	*Fr., B.S.E.E.
Teets, Donald Edward	Aurora	2nd Yr. Phar.
Temple, Frederick Arthur	Huntington	Voc. Eng'g.
Tennant, Dias S.	Burton	*Fr., B.S.Agr.
Tennant, Edna	Wadestown	Soph., B.S.H.E.
Tennant, Raymond Jefferson	Morgantown	Fr., B.S.E.E.
Teter, Abner June	Rivesville	*Fr., B.S.Agr.
Thomas, Joseph William	Charleston	Fr., A.B.
Thomas, Margaret	Parkersburg	Jun., A.B.
Thompson, Della Maree	Middlebourne	Sen., B.S.H.E.
Thompson, Forest Rutledge	Morgantown	Soph., B.S.E.E.
Thompson, Guy Paul	Berkeley Springs	Sen., A.B.
Thompson, Martha Anne	Sinks Grove	*Fr., A.B
Thornton, James Linton	Bluefield	Soph., B.S.M.E.
Thornton, Ray Spencer	Princeton	Sen., B.S.Agr.
Thornton, Rinard Urban	Bluefield	Fr., A.B.
Tiennebrunne, Yvonne	Salem	Jun., A.B.
Tierney, Josephine Claire	Weston	Fr., A.B.
Timothy, Thomas Charles	Chester	*Fr., B.S.E.M.
Titus, Laura May	Morgantown	*Fr., A.B.
Todorovich, Srboljub	Kragujevac, Serbia	Voc. Agr.
Toler, Jesse Lee	Mullens	Soph., A.B.
Tomkies, Douglas Christian	Hinton	Sen., A.B.
Torruellas, Severo Revere	Caguas, Puerto Rico	Fr., A.B.
Torry, Gail Mildred	Morgantown	*Fr., A.B.
Trach, John Paul	Fairmont	Fr., A.B.
Traubert, Barnetta Gertrude	Wellsburg	*Fr., A.B.
Treweek, John Spargo	Wheeling	Fr., B.S.M.E.
Trotter, Eleanor Agnes	Washington, D. C.	Soph., A.B.
Trotter, James Francis	Morgantown	Fr., B.S.M.E.

Trotter, Katharine Elizabeth	Washington, D.C.	Jun., A.B.
Trotter, Lorentz Steele	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1920.		
Trotter, Martha Elizabeth	Morgantown	Jun., A.B.
Trump, Fannie Marshall	Kearneysville	*Fr., A.B.
Tucker, John Wyland	Morgantown	Soph., A.B.
Tuckwiller, Rachel	Lewisburg	Sen., A.B.
Turkovich, Mathew	Monongah	Jun., B.S.C.E.
Turley, Clarence Clarke	Madison	Fr., A.B.
Twyman, Russell Heavner	Morgantown	Sen., B.S.M.E.
Underwood, Thomas Miller	Fairview	Voc. Eng'g.
Valentine, Mark Twain	Parsons	2nd Yr. Law
Vandervort, Harold Golden	Morgantown	Fr., B.S.M.E.
Van Gilder, Russell Dwight	Morgantown	Sen., A.B.
Van Metre, Robert Stuart	Martinsburg	Soph., A.B.
Van Metre, Thomas Henry	Martinsburg	Soph., B.S.Agr.
Van Reenen, Albert Cecil	Onoto	1st Yr. Med.
Vawter, Charles Ernest	Ansted	Special Eng'g
Via, Robert Everett	White Sulphur Springs	*Fr., B.S.Agr.
Vickers, Alathea Kate	Morgantown	Jun., A.B.
Vickers, Walter Howard	Morgantown	Fr., A.B.
Vincent, Lyle Dustin	St. Marys	Soph., A.B.
Vincent, Opal Gertrude	Cairo	Fr., A.B.
Virgin, Courtney Clark	Wheeling	Jun., B.S.E.M.
Wade, Bryan Lewellyn	Star City	Soph., B.S.Agr.
Wade, Charles Alexander	Morgantown	Fr., B.S.M.E.
Wade, Georgia Chorpening	Morgantown	Soph., A.B.
Wade, John Alexander	Morgantown	*Fr., A.B.
Wade, Rebecca Estra	Morgantown	*Fr., A.B.
Wadsworth, Howard Jesse	Morgantown	Jun., A.B.
Waggoner, Festus Clee	Harrisville	Soph., B.S.Agr.
Walker, Albert Kiddy	Sutton	1st Yr. Phar.
Walker, Beulah	Fairmont	Fr., B.S.H.E.
Walker, Jane Russel	Wellsburg	Fr., A.B.
Walker, Reford Bond	Williamson	Sen., B.S.E.E.
Walker, Thomas Justus	Uniontown, Pa.	*Fr, A.B.
Walker, William Wallace	Winona	2nd Yr. Med.
Ward, Brown Butcher	Huttonsville	Fr., A.B.
Ward, Gladys Twyla	Clendennin	Soph., B.S.H.E.
Warder, John McGraw	Grafton	1st Yr. Law
Warne, Wilbur Wilson	Dunbar, Pa.	Fr., A.B.
Warnick, Irene Hooper	Williamson	Fr., B.S.H.E.
Warrick, Louis Frederick	Morgantown	Sen., B.S.Ch.E.
Waters, John Robert, Jr.	Elkins	Jun., A.B.
Watkins, Cassie	Elkins	Soph., B.S.H.E.
Watkins, Harry Evans	Monongah	1st Yr. Law
Watkins, Mabel Ruth	Morgantown	*Fr., B.S.H.E.
Watson, Clara Belle	Morgantown	Sen., A.B.
Watson, Dorothy Elizabeth	Morgantown	Jun., A.B.
Watson, Paul William	Tunnelton	Fr., A.B.

Watson, Thomas Mahan	Follansbee	Fr., A.B.
Wayman, Ethel	Wheeling	Fr., A.B.
Weaver, Hazel Marie	Fayette City, Pa.	Fr., A.B.
Webb, Jessie Franklin	Bertha	Voc. Agr.
Weik, Emerson George	Huntington	*Fr., A.B.
Weiler, Lawrence Joseph	Huntington	Fr., B.S.C.E.
Welch, William Hamilton	Fairmont	*Fr., B.S.M.E.
Wellen, Clyde William	Morgantown	3rd Yr. Law
A.B., West Virginia University, 1918.		
Welton, William Archibald	Petersburg	2nd Yr. Med.
Werninger, Mary Rebecca	Huntington	Sen., A.B.
West, John Thomas	Morgantown	Grad. A. & S.
B.S., West Virginia University, 1907.		
Wetzel, Margaret Ellen	Spencer	Fr., A.B.
Wharton, Ray Hunter	New Martinsville	2nd Yr. Med.
Wheeler, Florence Katharine	Lonaconing, Md.	Fr., A.B.
Wheeler, Jerrold Ellsworth	Elkins	Jun., B.SC.E.
Wheeler, Russell Baxter	Gassaway	Fr., B.S.C.E.
Wheeler, Ruth Cecelia	Rowlesburg	Soph., A.B.
Wheeler, Vernon Olan	Morgantown	Jun., B.S.M.E.
Whetsel, Bernice	Fayette City, Pa.	Jun., A.B.
White, Chester Ross	Kingwood	Soph., B.S.Agr.
White, Clyde Vickers	St. Albans	Fr., B.S.E.E.
White, Fred St. Elmo, Jr.	Charleston	Fr., B.S.M.E.
White, James Franklin	Morgantown	2nd Yr. Med.
White, James Horn	Richwood	Fr., A.B.
White, Julius Sylvester	Laneville	Voc. Agr.
White, Katharine Rosalie	Richwood	Sen., A.B.
White, Lyall Luther	St. Albans	*Fr., A.B.
White, Marie Christine	Richwood	Fr., A.B.
White, Mary Jane	Morgantown	Grad. A. & S.
A.B., West Virginia University, 1918.		
White, Orville Dewey	Kingwood	Jun., B.S.Agr.
White, Stanley Ray	Morgantown	1st Yr. Med.
Whitney, Silas Pembroke	Walton	*Fr., B.S.C.E.
Widmeyer, Robert Samuel	Martinsburg	Soph., A.B.
Wiestling, Eleanor Virginia	Wheeling	Soph., B.S.H.E.
Wiestling, Helen Merwin	Wheeling	Grad. A. & S.
A.B., West Virginia University, 1911.		
Wilcox, Maurice Kenneth	West Union	*Fr., A.B.
Wilcoxen, Max Wellman	Huntington	Sen., B.S.E.E.
Willey, Mina Delila	Wellsburg	Fr., A.B.
Willhide, Victor Cole	Grafton	*Fr., A.B.
Williams, Charles Reed	Claudville, Va.	Voc. Agr.
Williams, Edgar	Morgantown	1st Yr. Law
A.B., West Virginia University, 1913.		
Williams, Florence Virginia	Morgantown	Soph., B.S.H.E.
Williams, Nell McCoy	St. Marys	Soph., A.B.
Williams, Paul Henry	Ravenswood	Soph., B.S.C.E.
Williams, Veta Lee	Morgantown	Fr., A.B.
Williams, William James	Morgantown	Sen., B.S.M.E.
Williamson, Mary Frances	Williamson	Fr., B.S.H.E.
Williamson, Odas Delphia	Morgantown	Soph., B.S.H.E.
Williamson, Raymond Randolph	Friendly	Soph., B.S.C.E.
Wilmoth, Edith Lorraine	Elkins	Sen., A.B.

Wilmoth, Russell Woods	Elkins	Sen., B.S. E.M.
Wilson, Elsie Mable	Wheeling	Jun., A.B.
Wilson, James Everett	Roanoke	Soph., B.S.Agr.
Wilson, Jonathan Hollis	Kitzmiller, Md.	Fr., A.B.
Wilson, Mary Juanita	Lewisburg	Fr., B.S. H. E.
Wilson, Paul Russell	Wilson	1st Yr. Med.
Wilson, Philip Clarence	Spencer	Fr., A.B.
Wilson, Robert Lusk	Clarksburg	Fr., A.B.
Wilson, Varina Maree	Hinton	Fr., A.B.
Wilt, Kathryn	Elkins	Sen., A.B.
Wilt, Ruth Elizabeth	Elkins	Soph., A.B.
Winder, William Tucker	Greensboro, N. C.	*Fr., A.B.
Winkler, Adeline Wild	Morgantown	Special A.B.
Winkler, Henry Jacob	Pickens	1st Yr. Med.
Winter, Arnold Austin	St. Albans	Fr., B.S.E.E.
Winter, Gladys Norma	St. Albans	*Fr., B.S.H.E.
Winter, Rupert Edward	Bridgeport	Soph., B.S.Agr.
Withers, Charles Hereford	Hogsett	Soph., A.B.
Wolford, Grace Louise	Morgantown	Sen., B.S.H.E.
Wood, Mary Wintringer	Morgantown	Special A. & S.
Wood, Ruth Augusta	Morgantown	Fr., A.B.
Woodburn, Olive McCay	Sistersville	Jun., A.B.
Wooddell, William Holt	Webster Springs	*Fr., A.B.
Woodford, Clarence Howe	Clarksburg	Jun., B.S.C.E.
Woods, John Fulton	Princeton	Fr., A.B.
Woods, Ralph Davis	Harrisville	Special A. & S.
A.B., West Virginia University, 1915.		
Woofter, Carey	Glenville	Soph., A.B.
Work, William Frank	Blue Creek	Fr., A.B.
Worley, Elizabeth Madoline	Salem	Sen., A.B.
Wotring, Mary Elizabeth	Kingwood	*Fr., A.B.
Wright, Ethel Fae	Cameron	*Fr., A.B.
Wright, Glenn Merrill	Core	Fr., B.S.Agr.
Wright, Russell Eshmul	Monongah	Fr., A.B.
Wysong, William Prentiss	Webster Springs	Fr., A.B.
Yager, Mary Louise	Pleasant Valley	Grad. A. & S.
A.B., West Virginia University, 1903.		
Yates, Walter Benton	Huntington	1st Yr. Phar.
Yoho, Nora Bell	Proctor	Fr., A.B.
York, Edith Cline	Morgantown	Special Agr.
Yost, John Paul	Pontiac, Ill.	1st Yr. Law
Ph.B., University of Chicago, 1920.		
Yost, Leland Lowe	Morgantown	Fr., A.B.
Yost, Paul	Fairmont	Soph., A.B.
Young, Harold Glynn	Moundsville	Fr., A.B.
Zearley, Gay Elizabeth	Morgantown	Fr., A.B.
Zeh, Earl Tecumseh	Wheeling	Fr., A.B.
Zeh, Helen Louise	Wheeling	*Fr., B.S.H.E.
Zerner, Herbert	New York, N. Y.	1st Yr. Med.
Ziler, Philip Ward	Elkins	Fr., B.S.E.E.
Zimmerman, Flora Felton	Parsons	Grad. A. & S.
A.B., West Virginia University, 1920.		
Zinn, George Hiner	Lumberport	*Fr., B.S.Agr.

ENROLLED IN THE SCHOOLS

Adams, John A.	Morgantown	Sum. Sch. Min.
Albright, Lois Pauline	Piedmont	Summer School
Alderson, Anna Mary	Summersville	Summer School
Ammons, Nelle Opal	Mannington	Summer School
Andy, Charles	Richard	Sum. Sch. Min.
Angus, Albert	Mount Hope	Sum. Sch. Min.
Auvil, George Gay	Parsons	Summer School
Baker, Edna	Leechburg, Pa.	Summer School
Baker, Horace Llewellyn	Bachman	Sum. Sch. Min.
Baker, Loisbelle	Morgantown	Music
Baker, Marguerite	Morgantown	Music
Barnard, George Fisher	Richard	Sum. Sch. Min.
Barnard, Williard Rachel	Rowlesburg	Music
Bartlett, Myrtle Ocea	Grafton	Summer School
Bear, Mergie	Morgantown	Summer School
Beard, Bertie McQuade	Arbovale	Summer School
Beard, Lillian Cameron	Arbovale	Summer School
Beck, Eleanor Louise	New Castle, Pa.	Summer School
Bevington, Isabelle Alberta	Morgantown	Music
Biggs, F. C.	Bramwell	Sum. Sch. Min.
Binns, Thomas John	Coalton	Sum. Sch. Min.
Blackburn, Myrtle Alice	Keyser	Summer School
Blankenship, Thomas Howard	Arista	Sum. Sch. Min.
Bleuer, Luella Charlotte	Green Hill	Summer School
Bobbitt, Jennie Goodrich	Summersville	Summer School
Boocks, Goldie Moore	Mannington	Music
Bottum, Margaret Huntington	Logan	Summer School
Bowers, Zella Leona	Wellsburg	Summer School
Bowlby, Mary Elizabeth	Morgantown	Summer School
Bradshaw, Agnes	Morgantown	Music
Brammer, Robert Lee	Arista	Sum. Sch. Min.
Brewster, Henry Lawrence	Morgantown	Sum. Sch. Min.
Broderick, J. A.	Morgantown	Sum. Sch. Min.
Brokaw, Sara Wells	Wheeling	Summer School
Brooks, Frank	Morgantown	Music
Brown, Charles Kepler	Moundsville	Sum. Sch. Min.
Brown, Mary Virginia	Morgantown	Music
Brown, Zelda Elizabeth	Tunnelton	Summer School
Bunce, Almena Josephine	Franklin, Pa.	Music
Burkett, W. A.	Moundsville	Sum. Sch. Min.
Caldwell, Lillie Grace	Keyser	Summer School
Calvert, Elizabeth	Folsom	Summer School
Cantrall, Charlot Wood	Morgantown	Music
Carder, Lena Belle	Bristol	Music
Carder, Roscoe Hamilton	Skull Run	Summer School
Carone, Anthony Dotus	Sabraton	Summer School
Carroll, Mildred Genevieve	Wheeling	Summer School
Carter, Bethanne	Mannington	Summer School

Casteel, Chester	Morgantown	Sum. Sch. Min.
Cather, Maude Minshall	Morgantown	Music
Cecil, William Jalinco	Mannering	Sum. Sch. Min.
Chaplin, Virginia Elizabeth	Morgantown	Music
Chesrown, Donald L.	Morgantown	Night Class
Christie, Nina	Sinks Grove	Summer School
Clarkson, Walter Cleveland	Charleston	Summer School
Clem, Maude	Sandyville	Summer School
Clements, Charles	Switzer	Sum. Sch. Min.
Closser, Annie	Waynesburg, Pa.	Summer School
Closser, Mary Scott	Waynesburg, Pa.	Summer School
Clovis, Monna	Pennsboro	Music
Cochran, Gertrude Reed	Morgantown	Music
Cochran, William Hazen	Morgantown	Music
Cole, Alice Marie	Grafton	Summer School
Cole, Virginia Garrison	Wadestown	Music
Coleman, A.H.	Buckhannon	Sum. Sch. Min.
Connor, Bertha Ellen	Cumberland, Md.	Summer School
Cook, Nette	Mullens	Summer School
Cooke, Zephyr Lena	Mullens	Summer School
Cormany, Ingaba	Belington	Summer School
Cottrell, William Howard	Short Creek	Sum. Sch. Min.
Courtney, Alice Roosevelt	Morgantown	Music
Courtney, Clara Carhart	Morgantown	Music
Courtney, Nancy Mary	Morgantown	Music
Courtney, Wilma Marie	Morgantown	Music
Cowell, Cecyle Mae	Wadestown	Summer School
Cowell, Nora	Morgantown	Music
Coyner, Lois Ligon	Clover Lick	Summer School
Craig, Iva Mae	St. Marys	Summer School
Crane, Lillian	Morgantown	Music
Crawford, Adam	Kingwood	Sum. Sch. Min.
Crickenberger, Hattie Payne	Grafton	Summer School
Curtis, Gene R.	McWhorter	Sum Sch. Min.
Daugherty, Ruth Amanda	Wellsburg	Summer School
Davis, Beatrice	Mt. Morris, Pa.	Music
Davis, Inez	Morgantown	Music
Davis, John	Ethel	Sum. Sch. Min.
Davis, John Gibson, Jr.	Roanoke, Va.	Summer School
Davis, Lucretia	Outcrop, Pa.	Summer School
Davis, Manila	Flatwoods	Music
Davis, Orla Aldis Ph.B., Salem College, 1912.	Salem	Summer School
Davisson, Gertrude	Harrisville	Music
Dawson, Clara Beryl	Monessen, Pa.	Summer School
Dawson, Olive Irene	Uniontown, Pa.	Music
Day, Roscoe Conkling	Arthur	Summer School
Deaner, John Calvin	Morgantown	Sum. Sch. Min.
DeLynn, Anna Ida	Morgantown	Music
DeVinney, Roberta McClure	Charleston	Summer School
Devlin, Richard	Layland	Sum. Sch. Min.
Dew, Mary Jane	Salem	Night Class
DeWitt, Dorotha Gertrude	Wellsburg	Summer School

DeWitt, Ruth Mae	Wellsburg	Summer School
Dickinson, Amy Deborah	Cheat Haven, Pa.	Summer School
Dille, Lucie Belzhoover	Morgantown	Music
Dillon, Andrew L.	Morgantown	Sum. Sch. Min.
Dodge, Edna Lauretta	Terra Alta	Music
Donalds, George Beaver	Thomas	Sum. Sch. Min.
Dorsey, Rufus Urban	Mt. Lookout	Summer School
Downey, Flora Leah	Weston	Summer School
Downey, Ida Mae	Weston	Summer School
Downey, Ola Grace	Weston	Summer School
Driscoll, Jeremiah	Fairmont	Sum. Sch. Min.
Dulin, Dale	Rivesville	Sum. Sch. Min.
Dunbar, Laura Gladys	Lewisburg	Summer School
Durrett, Eleanor Jean	Morgantown	Summer School
Durrett, Ethel Clare	Morgantown	Summer School
Dusenberry, Donald Joseph	Mt. Morris, Pa.	Music
Dysard, Virginia Evelyn	Morgantown	Music
Eastwood, Mildred Martin	Charleston	Summer School
Edmondson, Harriette Codwise	Morgantown	Summer School
Eib, Irene Eleanor	Belington	Summer School
Elkins, Stephen Fantell	Morgantown	Sum. Sch. Min.
Erlewine, Jesse Francis	Grantsville	Summer School
Eubank, Glenna	Edray	Summer School
Evans, Lena Mae	Hazelton	Summer School
Everly, Forrest Vernon	Kingwood	Sum. Sch. Min.
Fast, Mary Sandusky	New Geneva, Pa.	Summer School
Fearer, Hazel	Grafton	Summer School
Fife, Mary Virginia	Morgantown	Music
Fike, Violet Mae	Terra Alta	Summer School
Fink, Faye Beatrice	Headsville	Summer School
Finzel, Marie Frances	Frostburg, Md.	Summer School
Fisher, Delphia Mary	Charleston	Summer School
Fisher, Rhea Heironimus	Grafton	Music
Fisher, Ruth Helen	New Martinsville	Music
Forbes, Zona Marie	Morgantown	Music
Fowlkes, Anne Elizabeth Jemima	Griffithsville	Summer School
Frank, Anna Leona	Fairmont	Music
Funk, Mabel Matilda	Charlestown	Summer School
Gallagher, Margaret Frances	Morgantown	Summer School
Garrett, James William	Flemington	Sum. Sch. Min.
Garrett, Pearl	Barnesville, Ohio	Summer School
George, Elizabeth Hickman	Middlebourne	Music
Getrost, Ethel Elizabeth	Griffithsville	Summer School
Gibson, Frank K.	Morgantown	Sum. Sch. Min.
Gibson, Ila Kathryn	Grafton	Summer School
Gilbert, Helene Marie	Morgantown	Music
Gillespie, Florence Margaret	Moundsville	Summer School
Glosser, Mae Amelia	Columbiana, Ohio	Summer School
Glover, Thomas Leeds	Freeman	Sum. Sch. Min.
Godfrey, Allie Howard	Winston-Salem, N. C.	Summer School

Goodall, Chloe Lee	Charleston	Summer School
Goodrich, Cecile Pearl	Mt. Morris, Pa.	Music
Gourley, Phoebe Isabel	Leechburg, Pa.	Summer School
Graff, Ann Gertrude	Glen Jean	Summer School
Gray, Howard Edward	Elkins	Sum. Sch. Min.
Green, Florence	Morgantown	Music
Gregg, Margaret Virginia	Morgantown	Music
Gregg, Mary Elizabeth	Monessen, Pa.	Summer School
Groves, Hattie Elizabeth	Summersville	Summer School
Groves, Lydia Mae	Deepwell	Summer School
Haigh, Josephine	Uffington	Summer School
Hale, Josephine DeChantal	Weston	Summer School
Hall, Brice Holland	Clarksburg	Sum. Sch. Min.
Hall, Florence Malinda	Grafton	Summer School
Hall, Fonda Valera	Morgantown	Music
Hall, Margaret Elizabeth	Wheeling	Summer School
Hall, Nelle Herod	Morgantown	Music
Happel, Elsie Ethel	So. Charleston	Summer School
Hardy, Edith	Morgantown	Music
Harkins, Nelle Evelyn	Morgantown	Music
Harmon, Rosa Lee	Shoals	Summer School
Harper, Carra Martha	Davis	Summer School
Harris, Frank C.	Northfork	Sum. Sch. Min.
Harris, Virginia Gay	Canfield	Music
Hart, Louella Florence	Morgantown	Summer School
Hartley, Guy Leland	Buffalo	Summer School
Hartley, Martha Wilhemina	Morgantown	Summer School
Hartman, Jessie Jane	Elkins	Summer School
Hathaway, Maud	Buckhannon	Summer School
Hathaway, Winnie	Buckhannon	Summer School
Haynes, Winston Rives	Richmond, Va.	Summer School
Hazel, Barbara	Morgantown	Summer School
Heaster, Emmett Lawrence	Kieffer	Summer School
Heermans, Florence Elliott	Morgantown	Music
Helman, Robert Joseph	Cumberland, Md.	Music
Henry, Ella Elizabeth	Morgantown	Music
Hensell, Mary Josephine	Morgantown	Music
Hereford, Amelia Anne	Summersville	Summer School
Herrin, Walter	Royal	Sum. Sch. Min.
Hilliard, Ruth Erma	Morgantown	Music
Hodges, Paul Oliver	Morgantown	Sum. Sch. Min.
Hoff, Stella Louise	Spencer	Summer School
Hoge, Mary Rhinehart	Waynesburg	Summer School
Holt, Harry	Monongah	Sum. Sch. Min.
Horowitz, Herman Jack	New York, N. Y.	Summer School
B.Sc., West Virginia University, 1920.		
Horton, Humie Lee	Apex, N. C.	Summer School
Hough, Beulah Kathleen	Morgantown	Music
Howard, Daniel	Clarksburg	Summer School
Howard, Edna	Cowen	Summer School
Howard, Sylvia Ross	Clarksburg	Summer School
Huff, Foy Eufaula	Burnt House	Music

Huffman, Sadie Kathryn	Purgitsville	Music
Huffman, Tabitha	Purgitsville	Summer School
Hulse, Anna Elizabeth	Brooklyn, N. Y.	Summer School
Hume, Mackie Calvin	Williamsburg	Summer School
Hundley, Roy	Charleston	Summer School
Huntsman, Edward Elice	Thomas	Sum. Sch. Min.
Hutson, Louis Cass	Blaine	Sum. Sch. Min.
Hylbert, Lillian Mae	Reedy	Summer School
Jamison, Clona Maxine	Morgantown	Music
Jarrell, Beatrice	Oak Hill	Summer School
Jarrett, James Claude	Monongah	Sum. Sch. Min.
Jeffries, Nann Garfield	Frostburg, Md.	Summer School
Jenkins, Nellie Kester	Morgantown	Music
Johnson, Elihu James	Morgantown	Summer School
Johnston, Paul James	Morgantown	Music
Jones, Nell Bly	Weston	Summer School
Jones, Richard Bradley	Davidsonville, Md.	Summer School
Kearsing, Margaret Alice Thomas	Frostburg, Md.	Summer School
Kemper, Freda Grace	Morgantown	Summer School
Kershner, Virginia	Wilson	Music
Kirkpatrick, Linda Ledgewood	Lewisburg	Summer School
Knauer, Madge Isabel	Columbiana, Ohio	Summer School
Kostick, Michael	Morgantown	Sum. Sch. Min.
Kyle, Oliver Riggs	Huttonsville	Summer School
Lancaster, Bertha	Midland, Md.	Summer School
Lanz, Christina Razena	Follansbee	Summer School
LaPoe, James Lindsay	Dilliner, Pa.	Summer School
Lathem, Claude Aubra	Ravenswood	Summer School
B.Sc., West Virginia University, 1920.		
LePera, Alice Virginia	Morgantown	Summer School
Lester, Elpha Mabel	Reedy	Summer School
Lester, Lucille	Reedy	Summer School
Lester, Verna Leodah	Morgantown	Music
Lewis, Theodosia	Pt. Marion, Pa.	Summer School
Liston, G. H.	Kingwood	Sum. Sch. Min.
Lockard, Mary Louise	Pt. Marion, Pa.	Music
Locke, Lucile Loreto	Weston	Summer School
Locke, Mary	Weston	Summer School
Lohr, Olive Nay	Moundsville	Summer School
London, Walter	Huntington	Sum. Sch. Min.
Loriaux, Bertha	Pt. Marion, Pa.	Music
Maderia, Dorcas	Morgantown	Music
Madill, Joseph Cowan	Lumberport	Sum. Sch. Min.
Manear, Ruth	Morgantown	Summer School
Mann, Gayre Eloise	Edray	Summer School
Mapel, Mary Victoria	Dunkard, Pa.	Music
Markwood, Carmen Elizabeth	Old Fields	Summer School

Martin, Alma Underwood	Shinnston	Music
Martin, Lucille Wilson	Grafton	Summer School
Martin, Roy Jehu	Grafton	Summer School
Martin, Vecil Osurth	Morgantown	Summer School
Marvin, Louis Harold	Morgantown	Music
Mason, Stewart Alexandra	Maysville	Summer School
Mathias, J. F.	Colliers	Sum. Sch. Min.
Mathew, Viola Verne	Clarksburg	Summer School
May, Reba Pearl	St. Albans	Summer School
McAtee, Fred	Morgantown	Sum. Sch. Min.
McClaugherty, Ruth Virginia	Union	Summer School
McClung, John Spurgeon	Leivasy	Summer School
McClure, Irene Virginia	Morgantown	Music
McComas, Olla Beatrice	Saint Marys	Music
McCormick, Vera Edytha	Cameron	Summer School
McElroy, William Dale	Morgantown	Music
McGinnis, Marguerite Evelyn	Mona	Summer School
McKee, Mildred Barnett	Rockport	Music
McKenzie, Ellen Thompson	Cresaptown, Md.	Summer School
McMorrow, Marie Vivian	Charleston	Summer School
McNary, Virginia Lorena	Clarksburg	Music
Meek, Violette Virginia	Masontown	Summer School
Menefee, Ida Florence	Keyser	Summer School
Meyers, Elizabeth	Lonaconing, Md.	Summer School
Michael, Grace	Fairmont	Summer School
Miller, R. G.	Kingwood	Sum. Sch. Min.
Miller, William	Morgantown	Sum. Sch. Min.
Mish, Mary Eleanor	Inwood	Summer School
Mitchell, Benjamin Harrison	Rangoon	Sum. Sch. Min.
Monahan, Leonard P.	Huntington	Sum. Sch. Min.
Monger, Clara Francis	Pine Grove	Summer School
Moomau, Lillian Eena	Greenbank	Summer School
Moore, Genevieve	Huntersville	Summer School
Moore, Rubie Esther	Milton	Music
Moran, John Edward	Morgantown	Sum. Sch. Min.
Morgan, Frank Holmes	Morgantown	Music
Morris, Edna Leyman	Morgantown	Music
Morris, Mary Leota	Wallace	Night Class
Morton, Harry Othar	Rush Run	Sum. Sch. Min.
Morton, Vesta Rose	Charleston	Summer School
Nageotte, Joseph Charles	Kingwood	Summer School
Naglosky, Paul	Luzerne, Pa.	Sum. Sch. Min.
Nale, Leah May	Morgantown	Music
Nale, Naomi	Morgantown	Music
Neff, Bessie Bee	Morgantown	Music
Neff, Charles Cleveland	Bellaire, Ohio	Sum. Sch. Min.
Nogel, John F.	Blaine	Sum. Sch. Min.
Norris, William, Jr.	McDowell	Sum. Sch. Min.
Oney, Lonorra Belle	Charleston	Summer School
Orr, Mildred Elsie	Morgantown	Summer School
Owens, Hattie	Weston	Summer School
Owens, Mary Elizabeth	Weston	Summer School

Parker, Elizabeth Jane	Morgantown	Music
Parker, Ruth Fairfax	Mona	Music
Pell, Gladys Marian	Masontown	Summer School
Peniwell, Laura Etta	Huntington	Summer School
Penturff, Gilbert Jackson	Princeton	Summer School
Peterson, Ola Grace	Morgantown	Music
Pixler, Gladys	Dellslow	Music
Poland, Genevieve	Morgantown	Music
Poling, Perle	Montrose	Summer School
Portman, Virginia Ethel	Morgantown	Summer School
Posten, C. T.	Morgantown	Sum. Sch. Min.
Prettyman, Arthur	Morgantown	Summer School
Pyle, Mary Elizabeth	Morgantown	Summer School
Radcliffe, Beppie	Philippi	Summer School
Rader, Bertha Ezelle	Almoris	Summer School
Rea, Lonah Adell	Morgantown	Music
Ream, Mary Eleanor	Morgantown	Music
Reed, Edith Lucile	Morgantown	Music
Reed, John Ross	Fairmont	Music
Reed, Mildred Louise	Morgantown	Music
Reed, Rosetta May	Morgantown	Summer School
Remsberg, Gracia May	Funkstown, Md.	Summer School
Remsberg, Rachel Estella	Funkstown, Md.	Summer School
Reynolds, George William	Morgantown	Sum. Sch. Min.
Reyst, Klara Frederika	Morgantown	Summer School
Rhodes, Joseph Sherman	Frenchburg, Ky.	Summer School
Rice, Nellie Kathryn	Wheeling	Summer School
Ridgway, Nellie Louise	Morgantown	Music
Rightmire, Clara	Parsons	Summer School
Rightmire, Ella Orr	Parsons	Summer School
Rinehart, Betty Audra	Everson	Music
Rinehart, Maybelle	Weston	Summer School
Robinson, Grace	Mt. Clare	Summer School
Robinson, Harold Foster	Parsons	Summer School
Rogers, Alma Sophia	Morgantown	Music
Rogers, Marian Lucile	Bunker Hill	Summer School
Rogers, Frances Rhoda	Morgantown	Music
Root, Margaret	Morgantown	Music
Ross, Luke Burdett	Cameron	Summer School
Rufener, Helen Beatrice	Morgantown	Music
Rumsey, Virginia Clarinda	Morgantown	Music
Russell, Helen Hack	Morgantown	Summer School
Sanders, Sara Frances	Morgantown	Music
Sapp, Minnie May	Morgantown	Summer School
Sayre, Clara	Morgantown	Summer School
Schmeichel, Emilie Louise Augusta	Morgantown	Music
Schough, Carrie Matilda	Morgantown	Music
Schrader, Anna	Morgantown	Music
Schroyer, Mabel	Pt. Marion, Pa.	Sum. Sch. Music

Seitz, Frances Edward	Elkins	Summer School
Shafer, Jessie Everly	Morgantown	Summer School
Shanabarger, H. F.	Uffington	Sum. Sch. Min.
Shanes, Lessie Blanche	Fairview	Summer School
Shaver, Mary Elizabeth	Richwood	Summer School
Shelby, Sarah	Morgantown	Summer School
Shepherd, Alexander Rayburn	Moundsville	Sum. Sch. Min.
Shepler, Katharine Emma	Scottdale, Pa.	Summer School
Shepp, Olive Grace	Keyser	Summer School
Sheppard, Loney Derron	Kyle	Sum. Sch. Min.
Shriver, Ella Pearle	Morgantown	Music
Shriver, Lucy	Burton	Summer School
Sidell, Mary Anna	Dean	Summer School
Sigwart, Clotilde Louise	Morgantown	Music
Simms, Florence Day	Charleston	Summer School
Simpson, Mildred	Morgantown	Music
Skiles, Thelma Artimissa	Morgantown	Summer School
Smith, Evangeline	Wellsburg	Summer School
Smith, Margaret Elizabeth	Morgantown	Music
Smith, Marguerite Elizabeth	Morgantown	Music
Smith, Mary Almira	Wellsburg	Summer School
Smott, Bethiah Paul	Camden-on-Gauley	Summer School
Smyth, Hazel	Sutton	Summer School
Snaith, Mary Virginia	Weston	Music
Snodgrass, Chloe	Mannington	Summer School
Spicer, Jessie	Morgantown	Music
Spitznas, James Ernest Ph.B., Dickinson College,1915.	Frostburg, Md.	Summer School
Spurgeon, Lulu Mabel	Morgantown	Music
Staley, Mary Pansy	Kenova	Summer School
Starkey, Shirley Leland	Ravenswod	Summer School
Stealey, Mary Eliza	Weston	Summer School
Steele, Marjorie Frances	Moundsville	Music
Stewart, Florence Edna	Morgantown	Music
Stonestreet, Rose Elizabeth	Wolf Summit	Summer School
Stout, Pernae Eglantine	Ripley	Summer School
Stoutt, Hildra	Spring Creek	Summer School
Stoyer, Mabel Griffith	Morgantown	Music
Strickler, Mary Willa	New Castle, Pa.	Summer School
Strimel, Julia	Point Marion, Pa.	Music
Strother, Phineas Sylvester	Lumberport	Summer School
Stuart, Agnes Katharine	Morgantown	Summer School
Suder, John L.	Thomas	Sum. Sch. Min.
Sutton, David Dewey	Sistersville	Summer School
Swiger, Willabelle	Morgantown	Summer School
Talbott, Virginia Compton	Philippi	Music
Tate, Genevieve	Weston	Summer School
Taylor, Charlotte Laurita	Keyser	Summer School
Taylor, Elba Olin	Morgantown	Music
Thomas, Margaretta Olive	Morgantown	Summer School
Thompson, Dana Louise	Richwood	Summer School
Thompson, Nell	Middlebourne	Summer School
Thompson, Sara Alzina	Wellsburg	Summer School

Towson, Ira Gladstone	Widen	Sum. Sch. Min.
Traubert, Anna Elizabeth	Wellsburg	Night Class
Trickett, Lucie Sidney Belle	Oakland, Md.	Music
Turley, William Herbert	Terra Alta	Sum. Sch. Min.
Turner, Elizabeth Estes	St. Albans	Summer School
Tutwiler, Freda Marie	Shanks	Summer School
Ullum, Amy Marie	Elm Grove	Summer School
Utzman, Frances Matilda	Morgantown	Music
Vandervort, Mary Adaline	Morgantown	Music
Van Voorhis, Jessie	VanVoorhis	Music
Van Voorhis, Mabel Margaret	VanVoorhis	Music
Wain, Hilda May	East Liverpool, Ohio	Summer School
Wain, Kathryn Beatrice	East Liverpool, Ohio	Music
Walker, Jesse Jonathan	Blaine	Sum. Sch. Min.
Watson, Vesta Halbrook	Pineville	Summer School
Webb, Jesse Franklin	Bertha	Summer School
Weese, Marguerite Viola	Morgantown	Music
Weibel, Norris Robert	Morgantown	Music
West, Floda	Spencer	Summer School
West, Ottie Virginia	Morgantown	Summer School
Weston, Lillie Jenevieve	Morgantown	Music
Whetsell, Mabell Eleanor	Morgantown	Music
Whitesell, Zadok	Center Lovell, Me.	Music
White, Charlotta Sarah	Wellsburg	Summer School
White, James Andrew	Richwood	Summer School
Whiting, Millie Ralston	Morgantown	Summer School
Whittaker, Marie	Terra Alta	Summer School
Williams, Harriett	Morgantown	Music
Williams, Lela Agnes	Richwood	Summer School
Williams, Mary Margaret	Morgantown	Music
Williamson, Hazel	Whiteley, Pa.	Summer School
Williamson, Herschel McKinley A.B., Waynesburg College, 1919.	Farmington	Summer School
Williamson, Mabel Mae	Friendly	Summer School
Wilson, Edith	Spencer	Music
Wilson, Herman Evans	Grafton	Summer School
Wilson, James Harry Survetus	Trenton, N. J.	Summer School
Wilson, Leonore Virginia	Gassaway	Summer School
Winch, Ruth Greenleaf	Morgantown	Summer School
Wolf, June Elizabeth	Keyser	Summer School
Wolf, Minnie Dorothy	Morgantown	Music
Wolfe, Rose Jeane	Morgantown	Music
Wolford, Lillian Christina	Keyser	Summer School
Wolford, Lowell	Romney	Summer School
Wood, Virginia Hopewell	Moorefield	Summer School
Wright, Argil B.	Lumberport	Sum. Sch. Min.
Wright, Evelyn Manette	Morgantown	Music
Yeager, Genevieve Grace	Marlinton	Summer School
Young, Zella Mae	Morgantown	Music
Zearley, Gladys Iona	VanVoorhis	Music
Zearly, Joy A.B., West Virginia University, 1920.	Morgantown	Summer School
Zentz, Mabel	Omaha, Nebr.	Summer School

SUMMARY OF UNIVERSITY ENROLLMENT FOR 1920 - 1921

(As far as reported, May 1, 1921.)

Enrollment in the Colleges and the School of Medicine.

	CANDIDATES FOR DEGREES																								
	Graduate			Senior			Junior			Sophomore			Freshman			Total			Special			Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
Arts and Sciences	17	18	35	48	64	112	35	62	97	120	80	200	223	173	396	443	397	840	6	12	18	449	409	858[1]
Engineering	2	0	2	32	0	32	38	0	38	94	1	95	175	0	175	341	1	342	8	0	8	349	1	350
Agriculture	4	0	4	27	12	39	20	17	37	52	41	93	47	62	109	150	132	282	61	4	65	211	136	347
Law	0	0	0	12	0	12	15	1	16	27	1	28	54	0	0	54	2	56	4	0	4	58	2	60[1]
Medicine	0	0	0	28	2	30	44	1	45	0	0	0	0	0	0	72	3	75	0	0	0	72	3	75
Pharmacy	0	0	0	0	0	0	0	0	0	6	1	7	18	3	21	24	4	28	6	1	7	30	5	35
Totals	23	18	41	147	78	225	152	81	233	299	124	423	463	238	701	1084	539	1623	85	17	102	1169	556	1725[2]

Enrollment in Other Departments:

Summer School (not enrolled elsewhere)	13	124	137
School of Music	40	207	247[3]
Night Classes	1	3	4
Totals	54	334	388

Enrollment in Short Courses and Extension Coures:

Winter Short Course in Agriculture	(not held in 1920-1921)		
Farmers' Week, 1921	404	96	500
Boys' and Girls' Prize Winners Course, 1920	208	208	416
School of Good Roads	(not held in 1920-1921)		
Summer School of Mining	67	0	67
Extension Courses:			
In Industrial Education			14
In Mining			462
In College of Arts and Sciences:			
First Semester	14	119	133
Second Semester	6	24	30

[1] Thirteen students enrolled in the College of Arts and Sciences are doing their work in the College of Law in the combined course (see page 244).

[2] Of this number 227 registered as non-residents of West Virginia.

[3] The total enrollment in the Summer School was 651. Of this number 418 were students of college rank.

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